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OM nucleic - nucleic search, using sw model

Run on: May 15, 2003, 01:04:24 ; Search time 749 Seconds
(without alignments)
10899.191 Million cell updates/sec

Title: US-09-804-472-1

Perfect score: 3625
Sequence: 1 gaaccagttgcttcagcga.....aaaaaaaaaaaaaaaa 3625

Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 2185239 seqs, 1125999159 residues

Total number of hits satisfying chosen parameters: 4370478

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
1: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1980.DAT:*
2: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1981.DAT:*
3: /SID52/gcgdata/geneseq/geneseqn-emb1/NA1982.DAT:*
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21: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT:*
22: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT:*
23: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT:*
24: /SID52/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT:*

Pred. NO. is the number of results predicted by chance to have a score greater than or equal to the score of the distribution, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	2554	70.5	3263	24	ABO73032	Human chloride cha
2	1188.6	32.8	3173	22	AAK52392	Human polynucleoti
3	877.8	24.2	3126	21	AAC95411	Cat flea HMT VG C1
4	877.8	24.2	3126	21	AAC95412	Cat flea HMT VG C1
5	873.8	24.1	2553	21	AAC95413	Cat flea HMT VG C1
6	873.8	24.1	2553	21	AAC95414	Cat flea HMT VG C1
7	791	21.8	1968	21	AAC95407	Cat flea HMT VG C1
8	791	21.8	1968	21	AAC95408	Cat flea HMT VG C1
9	789.6	21.8	3368	22	AAO5207	Drosophila melanog

10	736.4	20.3	2191	21	AAC95405	Cat flea HMT VG C1
c 11	736.4	20.3	2191	21	AAC95406	Cat flea HMT VG C1
12	701.2	19.3	4794	23	AA568176	DNA encoding novel
13	701.2	19.3	4794	23	AA569658	DNA encoding novel
14	701.2	19.3	4794	23	AA574999	DNA encoding novel
15	701.2	19.3	4794	23	AA584089	DNA encoding novel
16	701.2	19.3	4795	23	AA574440	DNA encoding novel
17	701.2	19.3	4802	23	AA572071	DNA encoding novel
18	701.2	19.3	4803	23	AA578637	DNA encoding novel
19	701.2	19.3	5357	23	AA573335	DNA encoding novel
20	643.8	17.8	3452	23	ABLO9159	Drosophila melanog
21	602.8	16.6	1811	22	ABA08962	Human voltage gate
22	602.8	16.6	1811	22	AAK53376	Human polynucleoti
c 23	404.6	11.2	7344	22	ABLO9158	Drosophila melanog
24	404	11.1	9300	22	ABLO9159	Human nervous syst
25	333.4	9.2	335	21	AAC07377	Human secreted pro
c 26	297.4	8.2	433	24	ABLO4663	Stomach cancer rel
c 27	297.4	8.2	433	24	ABLO7190	Thyroid cancer rel
c 28	283.6	7.8	546	22	AAK15841	Human brain expres
c 29	283.6	7.8	546	22	AAK1584	Human bone marrow
30	245	6.8	498	22	AA69311	Human foetal liver
31	245	6.8	498	22	AA124192	Probe #14125 for g
32	222.8	6.1	493	22	ABA6738	Human foetal liver
33	222.8	6.1	493	22	AA15005	Probe #4938 for ge
c 34	196.8	5.4	485	22	ABA65100	Human foetal liver
c 35	196.8	5.4	485	22	ABA32205	Probe #10671 for g
c 36	196.8	5.4	485	22	AAK13522	Human brain expres
37	194	5.4	194	24	ABO73039	Human chloride cha
38	164.2	4.5	270	24	ABO73040	Human chloride cha
39	161.2	4.4	235	24	ABO73033	Human chloride cha
40	152.4	4.2	2310	24	AAK98344	Chinese hamster ex
41	152.4	4.2	14507	18	AA773568	Expression augment
42	152.4	4.2	14507	21	AA288869	Chinese hamster 2A
43	152.4	4.2	14507	24	AAK88343	Chinese hamster ov
44	152.4	4.2	14507	24	ABA82370	Chinese hamster ov
45	150.6	4.2	293	14	AAO61122	Human brain expres

ALIGNMENTS

RESULT 1
ABO73032
ID ABO73032 standard; cDNA; 3263 BP.
XX
AC ABO73032:
XX
XX
DT 24-SEP-2002 (first entry)
XX
DE Human chloride channel encoding cDNA sequence SEQ ID NO:1.
XX
KW Human: chloride channel; CLIC-N3A; CLIC-N3B; CFR; cystic fibrosis;
KW cystic fibrosis transmembrane conductance regulator; CLIC-3B;
KW respiration; gene; ss.
XX
OS Homo sapiens.
XX
XX
FH Key Location/Qualifiers
FT CDS 389..2989
FT /*tag= a
FT /product= "chloride channel protein"
XX
XX
XX WO200244369-A1.
XX
XX
XX 06-JUN-2002.
XX
XX
XX 30-NOV-2001; 2001WO-JP10499.
XX
XX
XX 30-NOV-2000; 2000JP-0365103.
XX
XX
XX (BANY) BANY PHARM CO LTD.
XX (FURU) FURUKAWA T.
XX (OGUR) OGURA T.
PA
PA

XX Furukawa T, Ogura T;
 XX MPI: 2002-557541/59.
 DR P-PSDB: ABB81616.
 XX
 PT Human chloride channel CIC-3B as outward rectifying chloride channel
 PT with chloride selectivity and activated by forskolin in presence of
 PT cystic fibrosis transmembrane conductance regulator, useful in
 PT diagnosis of cystic fibrosis
 XX
 PS Claim 9, Page 27-29; 41pp; Japanese.
 XX
 CC The present sequence encodes a human chloride channel protein (A).
 CC (A) has respiratory activity. (A) can be used in the diagnosis of
 CC and development of drugs for cystic fibrosis. (A) is a CIC-3-selective
 CC splicing subtype, which is an outward rectifying chloride channel with
 CC chloride selectivity and is activated by forskolin in the presence of
 CC cystic fibrosis transmembrane conductance regulator (CFTR).
 CC
 XX Sequence 3263 BP; 919 A; 627 C; 800 G; 917 T; 0 other;
 SO
 Query Match 70.5%; Score 2554; DB 24; Length 3263;
 Best Local Similarity 97.2%; Pred. No. 0;
 Matches 2640; Conservative 0; Mismatches 0; Indels 76; Gaps 1;

QY 957 AATATCTTTCTTACCTCTTCCAAAGTATAGCACAAAGCAAGCTAAAGGAGGCTG 1016
 |||||
 Db 1268 AATATCTTTCTTACCTCTTCCAAAGTATAGCACAAAGCAAGCTAAAGGAGGCTG 1327
 |||||
 QY 1017 CTATAGCTGCTCAGCTGACAGGGCTTCTGAGCTTTTGGTGCACCAATTGAGAGATT 1076
 |||||
 Db 1338 CTATAGCTGCTCAGCTGACAGGGCTTCTGAGCTTTTGGTGCACCAATTGAGAGATT 1387
 |||||
 QY 1077 CTTTATAGCTGGAAGAGGTTAGCATATTTTCTCTCAAACTTTATGAGATCATTT 1136
 |||||
 Db 1388 CTTTATAGCTGGAAGAGGTTAGCATATTTTCTCTCAAACTTTATGAGATCATTT 1447
 |||||
 QY 1137 TTTGCTGCTTTAGTGGCTGACATTTGTTTTGAGTCCATCAATTCATTTGTAACGCCGT 1196
 |||||
 Db 1448 TTTGCTGCTTTAGTGGCTGACATTTGTTTTGAGTCCATCAATTCATTTGTAACGCCGT 1507
 |||||
 QY 1197 CTGCTCCTTTTATAGTGAATCATACACCATGTAACCTTTTGAACCTGTTCTTTT 1256
 |||||
 Db 1508 CTGCTCCTTTTATAGTGAATCATACACCATGTAACCTTTTGAACCTGTTCTTTT 1567
 |||||
 QY 1257 ATTCTTTAGGGGTAATTTGAGGGCTTTGGGAGCCTTTTCATTTAGGCAAAATATGCC 1316
 |||||
 Db 1568 ATTCTTTAGGGGTAATTTGAGGGCTTTGGGAGCCTTTTCATTTAGGCAAAATATGCC 1627
 |||||
 QY 1317 TGTGTCTGACGCAAGTCCACGAAATTTGAAAGTATVCCGTTCTTGGAAGTCATTATT 1376
 |||||
 Db 1628 TGTGTCTGACGCAAGTCCACGAAATTTGAAAGTATVCCGTTCTTGGAAGTCATTATT 1687
 |||||
 QY 1377 GTTGAGGCATTACTGCTGATAGCCCTTCCCTAATCCATACATAGGCTTAACACCGT 1436
 |||||
 Db 1688 GTTGAGGCATTACTGCTGATAGCCCTTCCCTAATCCATACATAGGCTTAACACCGT 1747
 |||||
 QY 1437 GAACGATCAAGAGCTTTTACAGACGTGTGTCCTCGAATCCTCTCTTTTGTGTAC 1496
 |||||
 Db 1748 GAACGATCAAGAGCTTTTACAGACGTGTGTCCTCGAATCCTCTCTTTTGTGTAC 1807
 |||||
 QY 1497 TACAGAAATGACATGATGCCAGTAAATTTGTCATGACATTTCTGATGTCACAGCAGC 1556
 |||||
 Db 1808 TACAGAAATGACATGATGCCAGTAAATTTGTCATGACATTTCTGATGTCACAGCAGC 1867
 |||||
 QY 1557 ATTTGAGTATATTCAGCTATATTTGAGGATTCCTCGACATCATTTAAATCATATG 1616
 |||||
 Db 1868 ATTTGAGTATATTCAGCTATATTTGAGGATTCCTCGACATCATTTAAATCATATG 1927
 |||||
 QY 1617 ACAGATTCACCTTTTGGCATAGGTTCCATCAGGCTTGTTCATCCAGCATGAGCCATT 1676
 |||||
 Db 1928 ACAGATTCACCTTTTGGCATAGGTTCCATCAGGCTTGTTCATCCAGCATGAGCCATT 1987
 |||||
 QY 1677 GGAGCATGCGAGAGAGGATTTGGGGATTTGGGTGAGACAGCTTGCTTACTATCACAC 1736
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 Db 1988 GGAGCATGCGAGAGAGGATTTGGGGATTTGGGTGAGACAGCTTGCTTACTATCACAC 2047
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 QY 1737 GACGTGTTTATCTTAAAGATGCTGTGAGGTCCGGGGTGTATTTGATTTACCTGCGCTT 1796
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 Db 2048 GACGTGTTTATCTTAAAGATGCTGTGAGGTCCGGGGTGTATTTGATTTACCTGCGCTT 2107
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 QY 1797 TATGCCATGTTGTGCTGCTGACATGCTTAGTGGTGGACAAAGATGATGCTTCCCTG 1856
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 Db 2108 TATGCCATGTTGTGCTGCTGACATGCTTAGTGGTGGACAAAGATGATGCTTCCCTG 2167
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 QY 1857 GTGGTATTTGTTTTGACCTTACTGAGGCTTGGAAATATATTTGTTCCCTTATGGCTGCA 1916
 |||||
 Db 2168 GTGGTATTTGTTTTGACCTTACTGAGGCTTGGAAATATATTTGTTCCCTTATGGCTGCA 2227
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 QY 1917 GTCATGACCACTAATAGGCTTGGAGATGCCCTTTGGCAGGAGCAATTTATGAGCACAC 1976
 |||||
 Db 2228 GTCATGACCACTAATAGGCTTGGAGATGCCCTTTGGCAGGAGCAATTTATGAGCACAC 2287
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 QY 1977 ATCCGATTAATGATACCCCTTCTTGAGTGCAGAAAGAAAGATTCACCTATACCACTG 2036
 |||||
 Db 2288 ATCCGATTAATGATACCCCTTCTTGAGTGCAGAAAGAAAGATTCACCTATACCACTG 2347
 |||||

Qy	2037	GCCTCACCCTTATGACACCTCCAGAAAGTATCCCTTGTAGCTCTCAGACAGAC	2096
Db	2348	GCCTCAGCCTTATGAGACCTCCAGAAATGATCTCCCTTGTAGCTCTCAGACAGAC	2407
Qy	2097	AATATGACAGTGGATGATATATGAAAAACATGATTATGAAACCAGCTACATGGATTTCCT	2156
Db	2408	AATATGACAGTGGATGATATATGAAAAACATGATTATGAAACCAGCTACATGGATTTCCT	2467
Qy	2157	GTCATATATGTCAAAAAGAAATCTCAGACATTAATAGTGGATTTCGCCCTCAGAAAGACCTGACA	2216
Db	2468	GTCATATATGTCAAAAAGAAATCTCAGACATTAATAGTGGATTTCGCCCTCAGAAAGACCTGACA	2527
Qy	2217	ATTGCATATGAAAAAGTGGCAGAGAAAAAACAAGATGATCGTGGCAGTTCTCGGGTGTGT	2276
Db	2528	ATTGCATATGAAAAAGTGGCAGAGAAAAAACAAGATGATCGTGGCAGTTCTCGGGTGTGT	2587
Qy	2277	TTTGCACAGACACACCCCATCTCTTCCACAGCAAAAGTCTCGGCCATTTGAAAGCTTCGAAAC	2366
Db	2588	TTTGCACAGACACACCCCATCTCTTCCACAGCAAAAGTCTCGGCCATTTGAAAGCTTCGAAAC	2647
Qy	2337	ATTCTGACATGAGCCCTTTTACAGTACAGACACACCCCAATGAGATGTGGTGGAT	2396
Db	2648	ATTCTGACATGAGCCCTTTTACAGTACAGACACACCCCAATGAGATGTGGTGGAT	2707
Qy	2397	ATTTTCCGAAAGCTGGCAGTACGAGCAGTGCCTTGTATCACTCACAATG-----	2442
Db	2708	ATTTTCCGAAAGCTGGCAGTACGAGCAGTGCCTTGTATCACTCACAATGGGATTGTGTGGG	2767
Qy	2443	-----	2442
Db	2768	ATCATCAAAAGAAAGAACATATTAGAGCATCTCGAGCAACTAAGACAGCAGCTCGAACCC	2827
Qy	2443	--GGCGCCTCTTGGCATTTTAACAACAAAAAGATATCCCTCGGCATATGAGGCCACAGAGGC	2500
Db	2828	TTGGCGCCTCTTGGCATTTTAACAACAAAAAGATATCCCTCGGCATATGAGGCCACAGAGGC	2887
Qy	2501	AAACCAAGACCCCGCTTCAATTAATTCTCACTGATCTTCACAGATGAGAGAGAGAAAGAA	2560
Db	2888	AAACCAAGACCCCGCTTCAATTAATTCTCACTGATCTTCACAGATGAGAGAGAGAAAGAA	2947
Qy	2561	ACGGAAGAGAGATTATTGTTGATTACACACACTTTTAACCTGAGAGAGTCATCTAC	2620
Db	2948	ACGGAAGAGAGATTATTGTTGATTACACACACTTTTAACCTGAGAGAGTCATCTAC	3007
Qy	2621	TTTTTTTTCTCTTTTACAACAAAAAGAAAGAAATATAAAGCCGGGTTTTTGCACATG	2680
Db	3008	TTTTTTTTCTCTTTTACAACAAAAAGAAAGAAATATAAAGCCGGGTTTTTGCACATG	3067
Qy	2681	GTTTGCAAATTAATGCTGCTGGGAATGAGAGATTTTGGGGAGGAAAGGAGAGAGAAAG	2740
Db	3068	GTTTGCAAATTAATGCTGCTGGGAATGAGAGATTTTGGGGAGGAAAGGAGAGAGAAAG	3127
Qy	2741	AAAGAGATGAGTATTTCCTGCTTAACACAAAGACAGCGATCAACTCTATTGTTCTGCA	2800
Db	3128	AAAGAGATGAGTATTTCCTGCTTAACACAAAGACAGCGATCAACTCTATTGTTCTGCA	3187
Qy	2801	CTGATGTCATTCACGCTGAGAGATGTGCTGTATGTGCTGAGGCTTGGCGCTCAACAGAGATGA	2860
Db	3188	CTGATGTCATTCACGCTGAGAGATGTGCTGTATGTGCTGAGGCTTGGCGCTCAACAGAGATGA	3247
Qy	2861	CAGCAGAGTCTCTCGAG 2876	
Db	3248	CAGCAGAGTCTCTCGAG 3263	
RESULT 2			
AAK52392			
ID AAK52392 standard; cDNA: 3173 BP.			
XX AAK52392;			
AC			
XX			
DT 06-NOV-2001 (first entry)			

DE Human polynucleotide SEQ ID NO 937.

xx Human; cytokine; cell proliferation; cell differentiation; gene therapy;

xx vaccine; peptide therapy; stem cell growth factor; haematopoiesis;

xx tissue growth factor; immunomodulatory; cancer; leukaemia;

xx nervous system disorder; arthritis; inflammation; ss.

xx

OS Homo sapiens.

xx

PN WO200157190-A2.

xx

PD 09-AUG-2001.

xx

PE 05-FEB-2001; 2001WO-US04098.

xx

PR 03-FEB-2000; 2000US-0496914.

PR 27-APR-2000; 2000US-0560875.

PR 20-JUN-2000; 2000US-0598075.

PR 19-JUL-2000; 2000US-0620325.

PR 01-SEP-2000; 2000US-0654936.

PR 15-SEP-2000; 2000US-0663561.

PR 20-OCT-2000; 2000US-0693325.

PR 30-NOV-2000; 2000US-0728422.

xx

PA (HYSEQ-) HYSEQ INC.

PI Tang YT, Liu C, Drmanac RT, Asundi V, Zhou P, Xu C, Cao Y, Ma Y;

PI Zhao QA, Wang D, Wang J, Zhang J, Ren F, Chen R, Wang ZW;

PI Xue AJ, Yang Y, Wehrman T, Goodrich R;

xx

DR WPI: 2001-476283/51.

DR P-PSDB: AAM79259.

xx

PT Nucleic acids encoding polypeptides with cytokine-like activities,

xx

PT useful in diagnosis and gene therapy -

xx

XX Claim 1; Page 3074-3078; 6221pp; English.

xx

XX The invention relates to polynucleotides (AAK51456-AAK53435) and the

CC encoded polypeptides (AAM78323-AAK80302) that exhibit activity elating to

CC cytokine, cell proliferation or cell differentiation or which may induce

CC production of other cytokines in other cell populations. The

CC polynucleotides and polypeptides are useful in gene therapy, vaccines or

CC peptide therapy. The polypeptides have various cytokine-like activities,

CC e.g. stem cell growth factor activity, haematopoiesis regulating

CC activity, tissue growth factor activity, immunomodulatory activity and

CC activin/inhibin activity and may be useful in the diagnosis and/or

CC treatment of cancer, leukaemia, nervous system disorders, arthritis and

CC inflammation.

CC Note: Records for SEQ ID NO 2110 (AAK52581), 2111 (AAK52582) and 3666

CC (AAM80020) are omitted as the relevant pages from the sequence listing

CC were missing at the time of publication.

xx

xx Sequence 3173 BP: 811 A; 682 C; 732 G; 948 T; 0 other:

xx

Query Match 32.8%; Score 1188.6; DB 22; Length 3173;

Best Local Similarity 70.5%; Pred. No. 2.6e-173;

Matches 1603; Conservative 0; Mismatches 669; Indels 3; Gaps 1;

OY 258 AATGAGGACAGCATTAACAGGTTCTACACATTATACGATCTTTGGATGAACCAATTCCA 317

Db 259 AATGATGAGCAATATAGTTCTTCAANAATAGATCATGACATCTTGTGGAGAGCCAAATCCCT 318

OY 318 GGTGTTGATACATATGATGATTTCCATCTATTTGATTTGGTGGCGAGAAAAATGTAAGAC 377

Db 319 GGTGATGAGCACTATGATGATTTTCAATCAATGATTTGGTGGAGAGACAAGCTCGAGAC 378

OY 378 AGAGAAAGCGATATAGCGGATCAACGCAAAAAAGAAAGATAGCATGGGAAATGCAAAA 437

Db 379 CGGGATAGGACACCGGAGCAATTAACCAATAAAGCAAAAGAGTCAACATGGGCCCTTAATTAC 438

OY 438 AGTTTGATTTGATGCGCTGCTCAGATGCGCTTACATGATTAACATTAACAGCATTTGGCATCAGG 497

XX Cat flea HMT VG C1 channel-like cDNA, SEQ ID NO:1914.
DE
XX
XX Cat flea: hindgut and Malpighian tubule nucleic acid: HMT:
KW flea infestation; vaccine; antiparasitic; therapeutic target;
KW diagnosis; detection; ss.
OS
XX Ctenocephalides felis.
XX
XX MO200061621-A2.
XX
XX 19-OCT-2000.
XX
XX 07-APR-2000; 2000MO-US09437.
XX
XX 09-APR-1999; 99US-0128704.
XX
XX (HESK-) HESKA CORP.
XX
XX Brandt KS, Gaines PJ, Stinchcomb DT, Wisniewski N:
PI WPI; 2000-656323/63.
XX P-PSDB; AAB29627.
DR
XX
XX Flea Malpighian tubule and head and nerve cord tissue derived nucleic
PT acids useful for the prevention, diagnosis and treatment of flea
PT infestations -
XX
XX Claim 1; Page 933-937; 964pp; English.
XX
XX The invention relates to novel cat flea (Ctenocephalides felis) nucleic
CC acids which are expressed in hindgut and Malpighian tubule (HMT) tissue
CC or head and nerve cord (HNC) tissue. The invention also relates to the
CC encoded proteins. The invention additionally encompasses expression
CC constructs, recombinant viruses and recombinant cells comprising the
CC nucleic acids of the invention, recombinant production of the proteins,
CC antibodies against the proteins, a method of identifying inhibitors of
CC the proteins, and compositions comprising the inhibitors for
CC administration to an animal. The nucleic acids, and the proteins they
CC encode may be used in the prevention, treatment and diagnosis of diseases
CC associated with flea infestations. For example, the nucleic acids may be
CC used to produce an HMT or HNC protein according to standard recombinant
CC DNA methodology by inserting the nucleic acids into a host cell and
CC culturing the cell to express the protein. The HMT and HNC nucleic acids
CC may also be used as DNA probes in diagnostic assays (e.g., PCR) to detect
CC and quantitate the presence of cat flea or other homologous nucleic acid
CC sequences in samples. They may also be used to study the expression and
CC function of the proteins and their role in metabolism. The HMT and HNC
CC proteins may be used as antigens in the production of specific
CC antibodies, and in assays to identify modulators (agonists and
CC antagonists) of HMT and/or HNC protein expression and activity. The
CC anti-HMT/HNC protein antibodies and antagonists may also be used to
CC downregulate protein expression and activity. The antibodies may also be
CC used as diagnostic agents for detecting the presence of flea polypeptides
CC in samples (e.g., by enzyme linked immunosorbent assay (ELISA)). The
CC present sequence represents a cat flea HMT cDNA of the invention.
XX
XX Sequence 3126 BP; 939 A; 494 C; 676 G; 1016 T; 1 other:
SQ
Query Match 24.2%; Score 877.8; DB 21; Length 3126;
Best Local Similarity 63.3%; Pred. No. 9,3e-126;
Matches 1417; Conservative 0; Mismatches 807; Indels 15; Gaps 4;

Db 636 ATAAAGGGTGGCCATGATGCTGCTCAGGTTGGGTGTTGTTCTTCAATGCGGGCTG 695
Oy 492 TCAGGGGCACTGGCCGGATTAATAGACATTGCTCCGATGGATGACCTTAAGAG 551
Db 696 ACAGAGCACTTTCGAGCGCATATGATATCGAGCAAGTTGGATGAGATTTAAAGAC 755
Oy 552 GCGATTTGCCCTTATGTTGGTGTACACACAGCAAGCTGTGGGATCTAATGAA 611
Db 756 GGTGTTGGCCACACAGCATTTCTGTTAATAGAACAAATGTTGTGTCTTAATGAA 815
Oy 612 ACAACATTTGAAGAGAGGATTAATATGTCACAGTGAAGCAATGGGCAATTAATGATA 671
Db 816 ACAACCTTTGATGA - - - TGGAATATGCTCAAAATGGCTGAGCTGAGGTTTGGA 872
Oy 672 GGTCAAGCAGAGGCTCTGTTCTTATATCATGACATCAATATGTCATCTTGCGCC 731
Db 873 CAACCTAAGAACTGGGGGGGGGCTTACATTAATGCTATTGTTTATTAATTAATGGGCA 932
Oy 732 TTGAGTTTGCCTTCTTGGAGTTCCCTGGTAAAGTATTTGGCTCATATGCTGTGGC 791
Db 933 TTGATTTTCTTCTTTGGAGCCTCTTGTGGCGCAATTTGACCTTAATGCTTGGG 992
Oy 792 TCTGAATTCAGAGATTAATTAACATTTTAAGTGTATTCATCAGAGGTTACTGGGA 851
Db 993 TCAGGTATACCAGATTAATTAACCATTTCTGAGTGTTCATTCATCAGAGATATCTTGA 1052
Oy 852 AATGCACTTAAATGATTAATTAACCATTCATTAAGTCTGCTGCTGAGCATAGTTAGT 911
Db 1053 AATGCACTTAAATGATTAATTAACCATTCATTAAGTCTGCTGAGCATAGTTAGT 1112
Oy 912 TTAAGAAAGAGAGTCCCTGGTACATGTTGCCGTTGGTGGGAATTAATCTTCTAC 971
Db 1113 TTGGGTAAAGAGTCTTATGATGATGATGATGATGATGATGATGATGATGATGAT 1172
Oy 972 CTTCTTCAAGATATAGACAAAGAGCTAAAGAGAGGAGTGTATGACGTGCTCA 1031
Db 1173 TTAATTCCTAATATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1232
Oy 1032 GCGAGAGGGGTTCTTGTAGCTTTTGGTCAACATTTGAGAGAGTCTTGTAGCTGGA 1091
Db 1233 GCAAGTGTATATCTGTTGATTTGGAGCACTTATGAGAGTGTCTTGTAGCTGGA 1292
Oy 1092 GAGTTAGATTAATTTCTTCAAAACCTTATGAGATCAATTTTGTGCTTGTAGT 1151
Db 1293 GAGGTAGATTAATTTCTTCAAAACCTTATGAGATCAATTTTGTGCTTGTAGT 1352
Oy 1152 GCTGATTTTGTGAGTCAATTCATTCATTTGATGATGATGATGATGATGATGAT 1211
Db 1353 GCAAGTGTATATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1412
Oy 1212 GTGAGATATCATACCATGATGATGATGATGATGATGATGATGATGATGATGAT 1271
Db 1413 GTGAGATATCATACCATGATGATGATGATGATGATGATGATGATGATGATGAT 1472
Oy 1272 TTTGAGAGGCTTTGGAGGCTTTTTCATTAAGGCAATTTTCTGCTGTGCGAGC 1331
Db 1473 ATTGCTGTGTTGTAGCAAGCTGTTTATTAAGATTAATTTGTAGTGTGTGCTACCGT 1532
Oy 1332 AAGTCCAGCAATTTGCAAGATATCCGTTGCAAGTCAATTTGTGAGAGCCATTA 1391
Db 1533 AATTTTCTAATAGACAGTACCCGTTGCAAGAGTTTGTAGTGTGCTGTTGCA 1592
Oy 1392 GGTGTATAGCTTCCCTATTCATACATGATGATGATGATGATGATGATGATGAT 1451
Db 1593 GCAAGTATGCTTATCTTAATCTTATCACCAGATGATGATGATGATGATGATGAT 1652
Oy 1452 CTTTTTACAGACTGTGTGCTCCGTAATCTCTTCTTCTTCTTCTTCTTCTTCTTCT 1511
Db 1653 CTAATTCAGCAATATGCGGATTTTCCATTTCTGATCTTTTGTGTATTAATTCGCAAT 1712
Oy 1512 AATGCAATTAATTTGTGATGATGATGATGATGATGATGATGATGATGATGATGAT 1571
Db 1713 ACTGATGTTAATACGCTATAGAAATAGCAG - - - - - CAGCTGTGCTGTGTCTACAG 1766

Db 576 AGAGATCGAATGAGACATCGATATATTTGTTAAAAAGCACAAGACTCTATAGACCTG 635
QY 432 ACAAAAAGTTGTATGATGCGTGGCAGAGATGGCTAGTAGTAACTACAGATGAGTGGCA 491
Db 636 ATAAAGGTGCGCCATGATGCTGGTCAAGTTGGGTGTGTCTTCTAGTGTGGGCTGGTG 695
QY 492 TCAGGGGCGATGCGCGATTAATAGACATTTGCTCCGATTTGGATGACAGTACCAAGAG 551
Db 696 ACAGAGCTATTTGAGGCGTCATGATATCGAGACAGTTGGATGAGCGAATTTAAAGAC 755
QY 552 GGCATTTGCCCTAGTGGCTGTGTACACACAGACAGTCTGTTGGGATCTAATGAA 611
Db 756 GGTATTTGCCCAACAAGATTCGTGTGATAGAGACATGTTGTGTCTCATTTCAATGAA 815
QY 612 ACACATTTGAAGAGAGGATTAATGTCACAGTGAAGAAACATGGGAGATTAATACATA 671
Db 816 ACAACCTTTGATGA---TGAATAATGCTCACAGATGCTGATGCTGAGCTGGAGCTTTGGGA 872
QY 672 GGTCAAGCAGAGAGGTCTGCTCTTATATCATGACATGATATGATCTTCCTGGGCC 731
Db 873 CAACCTGAAGTCTGGGCGGGGCTTACATATATGCTTATTTATATATTTGGGCA 932
QY 732 TTGAGTTTGGCTTCTTTCGAGTTCCCTGGTAAAGATTTGCTCCATATGCTGTGGC 791
Db 933 TTGATTTTGGCTTCTTTCGAGCTCTTGGTGGCAGATTTGACCTTATGCTTGTGG 992
QY 792 TCTGAATTCAGAGATTAATAACTATTTTAAGTAGTGATTCATCAGAGTGTACTTGGGA 851
Db 993 TCAGGTATACAGAGATTAATAACCATTTCTGATGCTTTCATCATCAGAGATATCTTGGCA 1052
QY 852 AAATGACCTTAATGATTAATAAACCATCATATTAATCTGCTGGCTGGCATCAGTTTGA 911
Db 1053 AAATGACATGATTAATTAATAAGTGTAGAGATCATGTTGTCTGTATCAGCTGATAGT 1112
QY 912 TTAGAAAAGAGAGTCCCGCTGATATGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 971
Db 1113 TTGGTAAAGAGAGTCCCGCTGATATGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1172
QY 972 CTCTTCCAAAGTATATGACACAAAGAGCTTAATAAAGAGAGTGTATCATGCTGCTGCA 1031
Db 1173 TTATTTCTTAATATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCA 1232
QY 1032 GCTGCAAGAGGCTTCTGATGCTTGTGTCACCAATTTGAGAGTCTTTTAAAGCTGGA 1091
Db 1233 GCACCTGCTGATCTGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGGA 1292
QY 1092 GAGTTGCTATTTATTTTCTCTCAAACTTATGAGATCATTTTGTGCTGCTTATG 1151
Db 1293 GAGTTGCTATTTATTTTCTCTCAAACTTATGAGATCATTTTGTGCTGCTTATG 1352
QY 1152 GCTGCAATTTGTTGAGTCCATCATCATTTGTTGTAACAGCCTGCTGCTGCTTAT 1211
Db 1353 GCACCTTCTATTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1412
QY 1212 GTGAGATCATATACATGATGCTTTTGAACCTGTTTCTTATTTCTTATGAGGGA 1271
Db 1413 GTGAGATCATATACATGATGCTTTTGAACCTGTTTCTTATTTCTTATGAGGGA 1472
QY 1272 TTGAGAGGCTTTGGAGGCTTTTCTATGAGGCAATATGCTGCTGCTGCTGCTGCTG 1331
Db 1473 ATTGCTGCTGTTGAGAGGCTTTTCTATGAGGCAATATGCTGCTGCTGCTGCTGCTG 1532
QY 1332 AAGTCCAGCAAAATTTGGAAGATATCCGTTCTGGAAGTATTTATTTGCTGAGCCTACT 1391
Db 1533 AATTTTCTAATACATGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1592
QY 1392 GCTGTGATGCTTCTCTATATCATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1451
Db 1593 GCAGTGTGCTTCTCTATATCTTCAACAGAGATGATGATGATGATGATGATGATGAT 1652
QY 1452 CTTTTCAGACCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1511
Db 1653 CTATTCAGCCAAATGCGGAGTTTCCAAATTCGATGCTTGTGTGTATCAATCGCAATTT 1712

QY 1512 AATCCAGTAAATTTGCTGATGATTCCTGATGCTGCCAGCAGCATGAGATATTTCA 1571
Db 1713 ACTGATGTTAATATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 1766
QY 1572 GCTATATGAGCAGTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1631
Db 1767 GCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1826
QY 1632 GGCATCAAGGTTCCATCAGGCTGTTTCAATCCCGATGCTGCTGCTGCTGCTGCTGCTG 1691
Db 1827 GGTATGAAGATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1886
QY 1692 AGGATGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1751
Db 1887 AGAATTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 1946
QY 1752 AAGAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1811
Db 1947 TCTGCTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2006
QY 1812 GCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1871
Db 2007 GCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2066
QY 1872 GAGCTTACTGAGGCTTGGATATATTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1931
Db 2067 GAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2126
QY 1932 TGAGTTGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1991
Db 2127 TGAGTTGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2186
QY 1992 TACCTTCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 2051
Db 2187 TATCCTTCTTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 2246
QY 2052 AGACCTGGAAGATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2111
Db 2247 CAACCCAGAGAGATGGAACA---TTAAGTATATCCTGCTGCTGCTGCTGCTGCTGCTG 2303
QY 2112 GATATGAAGAAATGATTAATGAAGACAGCTACATGATGATGATGATGATGATGATGAT 2171
Db 2304 GATGTTGAAGATGATTAATGAAGAAAGATGATGATGATGATGATGATGATGATGATG 2363
QY 2172 GAATCTGAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2231
Db 2364 GAATCTGAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2423
QY 2232 GCCAGAAAGAAAGAGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2291
Db 2424 GCTGAGAGCAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2480
QY 2292 CCATCTCTTCCAGAGAAAGTCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2351
Db 2481 CCTGAGCTGCAAAATTTAGAGCCTCCACCTTTGAACCTAAAGAAATATATGATGATGCT 2540
QY 2352 CCTTTTACAGTACAGACACCCCAATGAGATGATGATGATGATGATGATGATGATGATG 2411
Db 2541 CCAATTAACAGTACAGTACAGACCAATGAGATGATGATGATGATGATGATGATGATGAT 2600
QY 2412 GGAATGAGGAGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2471
Db 2601 GCTTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2660
QY 2472 GATATCTCTGCGGATATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTG 2551
Db 2661 GATGTTTATGAGCAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 2720
QY 2532 TGATATCTCAGATGAGGA 2550
Db 2721 TAATATTACATATATGTA 2739

RESULT 7
 ALC95407
 ID ALC95407 standard; cDNA; 1968 BP.
 AC ALC95407;
 DT 19-FEB-2001 (first entry)
 DE Cat flea HMT VG C1 channel-like partial cDNA, SEQ ID NO:1910.
 KW Cat flea; hindgut and Malpighian tubule nucleic acid; HMT;
 KW flea infection; vaccine; antiparasitic; therapeutic target;
 KW diagnosis; detection; ss.
 OS Ctenocephalides felis.
 PN M0200061621-A2.
 PD 19-OCT-2000.
 PE 07-APR-2000; 2000MO-US09437.
 PR 09-APR-1999; 9905-0128704.
 PA (HESK-) HESKA CORP.
 PI Brandt KS, Gaines RJ, Stinchcomb DT, Wisniewski N;
 DR WPI; 2000-656333/63.
 PT Flea Malpighian tubule and head and nerve cord tissue derived nucleic
 PT acids useful for the prevention, diagnosis and treatment of flea
 PT infections -
 Claim 1; Page 930-931; 964pp; English.
 The invention relates to novel cat flea (Ctenocephalides felis) nucleic
 acids which are expressed in hindgut and Malpighian tubule (HMT) tissue
 or head and nerve cord (HNC) tissue. The invention also relates to the
 encoded proteins. The invention additionally encompasses expression
 constructs, recombinant viruses and recombinant cells comprising the
 nucleic acids of the invention, recombinant production of the proteins,
 antibodies against the proteins, a method of identifying inhibitors of
 the proteins, and compositions comprising the inhibitors for
 administration to an animal. The nucleic acids, and the proteins they
 encode may be used in the prevention, treatment and diagnosis of diseases
 associated with flea infestations. For example, the nucleic acids may be
 used to produce an HMT or HNC protein according to standard recombinant
 DNA methodology by inserting the nucleic acids into a host cell and
 culturing the cell to express the protein. The HMT and HNC nucleic acids
 may also be used as DNA probes in diagnostic assays (e.g., PCR) to detect
 and quantitate the presence of cat flea or other homologous nucleic acid
 sequences in samples. They may also be used to study the expression and
 function of the proteins and their role in metabolism. The HMT and HNC
 proteins may be used as antigens in the production of specific
 antibodies, and in assays to identify modulators (agonists and
 antagonists) of HMT and/or HNC protein expression and activity. The
 anti-HMT/HNC protein antibodies and antagonists may also be used to
 downregulate protein expression and activity. The antibodies may also be
 used as diagnostic agents for detecting the presence of flea polypeptides
 in samples (e.g., by enzyme linked immunosorbent assay (ELISA)). The
 present sequence represents a cat flea HMT cDNA of the invention.
 Sequence 1968 BP; 519 A; 329 C; 481 G; 639 T; 0 other;

QY	372	AAACAGAGAGAAAGCGATTACACGGATTAAACAGCAAAAGAAAGAAATGACACTGGAAGT	431
Db	105	AGAGTCGAATGAGACATGCAATATTGTTTAAAAACGCAAGACCTATATCTAGACCTG	164
QY	432	ACAAAAAGTTTGTATGATGCGTGGTACAGATGGCTGTGTAACTAACAAGATTGGCA	491
Db	165	ATAAAGGGTGGCCATGATGCGCTGCTCAGGTGGGTGTGTCTCTCCTAGTGGGCTGGTG	224
QY	492	TCAGGGGACATGGCGCGGATTAATAGACATTGCTGCCGATTGGATGACATGACCTAAAGAG	551
Db	225	ACAGAGACTATTGGAGCGCTCATAGATTCGAGAGCAAGTTGGATACGGATTAAAGAAC	284
QY	552	GGCATTTGGCCCTTACTGCGGTGGTGAACACAGCAACATGCGTTGGGATCTAATGAA	611
Db	285	GGTGTGTTGCCACAGACGATCTGTGTGATAGAGAACATGTTGTTGGTCAATGATGATGA	344
QY	612	ACACATTTGAGAGAGAGGATTAATGTCACAGTGGAAACATGGCGAGATTAATCATGA	671
Db	345	ACAACCTTTGATGTA - - TGGAAATTCCTCCACATGCTGCTACCTGAGGTGTTTCGGA	401
QY	672	GGTCACGACAGGGTCCGTGGTCTGTATATCATGAACTACATATGATACATCTTCGCGCC	731
Db	402	CAACCTTGAAGCTGGGGGGGGGCTTACATATATGCTTATTTCTTTATATATTTTGGGCA	461
QY	732	TTGAGTTTGGCTTTCTTTGCGATTTCCCTGTTAAAGATTTTGTCTCCATATGCTGGC	791
Db	462	TTGATTTTGTGTTCTTTGGCAGGCTCTGTTGGCGCATGTTTGGACCTTATGCTTGCGG	521
QY	792	TCCTGGAATTCAGAGATTAAACCTATTTTAAGTGATTCATCATCAGAGGTTACTTGGGA	851
Db	522	TCAGAGTTACACAGATTAAACCATCTGAGAGGTTTCTATCATCAGAGATATCTTGGGA	581
QY	852	AAATGAGCTTAAATGATTAAACCATCACATTTGTCCTGGCTGGCATCAGCTTGGAGT	911
Db	582	AAATGAGCATTTGATTAATTAAGGTAGAGATCATGTTGTCTGTATCAGCTGAGATTGAGT	641
QY	912	TTAGGAAAGAGAGTCCCTGTTACATGTTGCCCTGTTGCTGCGGAATATCTTTTCTTAC	971
Db	642	TTGGCTTAAAGAGGTCCTATGATGACACATTTGGCCAGCTGTATAGTAATATATGCTTAT	701
QY	972	CTCTTTCCAAAGTATACCAAAAGAGGCTTAAAGGAGAGGCTCTTACAGTCCGCCCA	1031
Db	702	TTATTTTCTTAATATATGCTCGGAATGGAAGCAAGAAACGAGAAATTTTATCAGCACTGCA	761
QY	1032	GCTTCAGAGGGTTCTGTAGCTTTTGGTGCACCAATTTGAGAGAGTTCTTTTATAGCTGGAA	1091
Db	762	GCACCTGTGTATCTGTGTGATTTGGAGACCAATTTGGAGGTGTGCTTTGAGTTGGAA	821
QY	1092	GAGTTTACGCTATTTTCTCTCAAACTTTATGAGATCATTTTGTGCTGTAACTG	1151
Db	822	GAGGTGAGCTACTAATTTCCATTTGAAGACCTTATGAGATCATCTTCTGTGCTTTGATGA	881
QY	1152	GCTCATTTTGTTTGAGGTGCATCATTCATTTGGTAACAGCGCTGCTGGCTTTTAT	1211
Db	882	GCACCTTTCAATTTGCGATGCAATTAATTCATTTGGAAGAGACACTGTGCTTTTCAAT	941
QY	1212	GTTGAGTATCATACACAGTGTACTTTTGAACGTGTTTCTTTATTTCTTCTAGGGGTA	1271
Db	942	GTTGAAATACATAAACCCTTGATATTTTGTGAACGATACCTTTCATAGGCGCTTGAATA	1001
QY	1272	TTTGGAGGGCTTTGGGAGGCTTTTTCATTAGGGCAAAATATGGCTGGGTGCTGAGAGC	1331
Db	1002	ATTGTGTGTGTTGAGCAACGCTGTTTATTAAGAACTAATTTGTACTGGTGTGCTACCGT	1061
QY	1332	AAGTCACGAATTTGGAAAGTATCCCGTTTGTGGAAGTCATATTTGTTGACAGCAATTACT	1391
Db	1062	AAATTTTCTAAACAGACAGTATCCCGTTTGCAGAAAGTTTGTGTTGCTGTGTCACACA	1121
QY	1392	GCTGTATACCTTCCCTATCATCATCTAGGCTTAACACACAGTGAACGTATCAAGAG	1451
Db	1122	GCATGTATCTTATCTTATCTTATCTTACACACAGAGATGAATACTAGTCAACATATTTATTA	1181

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QY 1452 CTTTTCAGACGCTGTGTCCTGGAAATCCTTCTCTTGTGACACAGAAATGACATG 1511
    || || || || || || || || || || || || || || || || || || || || ||
DB 1182 CTATTCAGCAATGCGGATTTTCATTTCTGATTCCTTTGTGTATACATTCGCAATTC 1241
QY 1512 AATGCCAGTAAATATGTCATGATTCCTGATTCGTCACAGCATGAGATATATCA 1571
    || || || || || || || || || || || || || || || || || || || || ||
DB 1242 ACCTGATGTAAACAGCTATATAGAAATAGCAG-----CACCTGCTCTGTCTACAG 1295
QY 1572 GCTATATGCGAGTTATATCCGACACTCATATTTAAATCATATGACAGTACTTCTT 1631
    || || || || || || || || || || || || || || || || || || || || ||
DB 1296 GCTGTGTGTGTCCTCCGATTCCTTTGCTACTGAAATTTGGAAATGATGATTTACCTTT 1355
QY 1632 GGCATCAAGTTCCTCATCAGCTTGTTCATCCACAGATGSCCATTTGAGCGACAGAA 1691
    || || || || || || || || || || || || || || || || || || || || ||
DB 1356 GGTATCAAAATACCATGTCGTCTTTATCCCAAGTTTATGCCATAGACATATATGGGT 1415
QY 1692 AGGATTTGGGGAGTGGGGTGGAGCAGCTTCCCTACTATACACAGCATGTTATCTTT 1751
    || || || || || || || || || || || || || || || || || || || || ||
DB 1416 AGAATTTGGGGCATTTGAAATGAAACAATTTGCTTACTATTTATCCMAAATATGTTCTTT 1475
QY 1752 AAGAGTGTGTGAGTGTGGGGCTGATTTGATTAACACCTGCTTTATGCCATGTTGGT 1811
    || || || || || || || || || || || || || || || || || || || || ||
DB 1476 TCTGTGTAATGCTCACTGATGAGACAAATTCATCACCAGGCTGTATGCTATGTGGGC 1535
QY 1812 GCTGTCGATGCTTAGTGTGTGACAAAGATGACTGTCTCCCTGCTGTTATTTGTTTT 1871
    || || || || || || || || || || || || || || || || || || || || ||
DB 1536 GCTGACACTTTTATAGTGTGTGCTACATAGATGACAGTTCTCTGTGTAATATGTTT 1595
QY 1872 GAGCTTACCTGAGCTGTGAAATATATGTTCCCTTATGCTGACATGACACAGTAA 1931
    || || || || || || || || || || || || || || || || || || || || ||
DB 1596 GAACTGACTGTGTGCTATCTTATCTGTCCTTAAATGACAGCATATGCTTCCAAA 1655
QY 1932 TGGGTTGAGATGCTTTGGCAGGAGGATTTATGACACACATCCGATTAATGGA 1991
    || || || || || || || || || || || || || || || || || || || || ||
DB 1656 TGGGTTGATGCTTTGGGACAGACAGGATATATGATGCCATATACAGCTTAATGGA 1715
QY 1992 TACCTTTCTGATGCAAAAGAAATTCACATCATCCACCTGGCTGTGACGTTATG 2051
    || || || || || || || || || || || || || || || || || || || || ||
DB 1716 TATTCATCTTTGGACACTAAAGATGATTTGACATTCATCTTATGCTGAGATGTGAT 1775
QY 2052 AGACCTGAGAGATGATTCCTCCCTAGCTGCTGACAGACAGCATATGACAGTGGAT 2111
    || || || || || || || || || || || || || || || || || || || || ||
DB 1776 CAAACCAAGAGATGA---AACATTAAGTATATCATCTCAAGACATGATGACGTGGAT 1832
QY 2112 GATATGAAAAAATGATTAATGAAGCAAGCTACATGATTTCTCTGATTAATGTCAAAA 2171
    || || || || || || || || || || || || || || || || || || || || ||
DB 1833 GATGTTGAAGTTTACGAAAGAAACAGACACATGATGATTCAGTTGTTCCAGA 1892
QY 2172 GATTCACAGATTAAGTGGGATTTGCCCTCAGAAAGACCTGACAAATTCGAATNAGAGT 2231
    || || || || || || || || || || || || || || || || || || || || ||
DB 1893 GAATCTCAGATATCTGTTGGATTTGTTTGAAGAGGAGCATTAATCTAGCCATAGCCAAAT 1952
QY 2232 GCCAG 2236
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DB 1953 GCTAG 1957

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RESULT 8
 AAC95408/c
 ID AAC95408 standard; cdna; 1968 bp.

AAC95408:
 19-FEB-2001 (first entry)
 Cat flea HMT VG C1 channel-like cdna complement, SEQ ID NO:1911.
 Cat flea: hindgut and Malpighian tubule nucleic acid; HMT:
 flea infestation; vaccine; antiparasitic; therapeutic target;
 diagnosis; detection; ss.
 OS
 XX Ctenocephalides felis.

PN WO200061621-A2.
 XX
 PD 19-OCT-2000.
 XX
 PF 07-APR-2000; 2000MC-US09437.
 XX
 PR 09-APR-1999; 9905-0128704.
 XX
 PA (HESK-) HESKA CORP.
 PI Brandt KS, Gaines RJ, Stinchcomb DT, Wisniewski N.
 DR WPI; 2000-656323/63.
 XX
 PT Flea Malpighian tubule and head and nerve cord tissue derived nucleic
 PT acids useful for the prevention, diagnosis and treatment of flea
 PT infestations -
 PS
 PS Claim 1; Page 931-932; 964pp; English.

The invention relates to novel cat flea (*Ctenocephalides felis*) nucleic
 acids which are expressed in hindgut and Malpighian tubule (HMT) tissue
 or head and nerve cord (HNC) tissue. The invention also relates to the
 encoded proteins. The invention additionally encompasses expression
 constructs, recombinant viruses and recombinant cells comprising the
 nucleic acids of the invention, recombinant production of the proteins,
 antibodies against the proteins, a method of identifying inhibitors of
 the proteins, and compositions comprising the inhibitors for
 administration to an animal. The nucleic acids, and the proteins they
 encode may be used in the prevention, treatment and diagnosis of diseases
 associated with flea infestations. For example, the nucleic acids may be
 used to produce an HMT or HNC protein according to standard recombinant
 DNA methodology by inserting the nucleic acids into a host cell and
 culturing the cell to express the protein. The HMT and HNC nucleic acids
 may also be used as DNA probes in diagnostic assays (e.g., PCR) to detect
 and quantitate the presence of cat flea or other homologous nucleic acid
 sequences in samples. They may also be used to study the expression and
 function of the proteins and their role in metabolism. The HMT and HNC
 proteins may be used as antigens in the production of specific
 antibodies, and in assays to identify modulators (agonists and
 antagonists) of HMT and/or HNC protein expression and activity. The
 anti-HMT/HNC protein antibodies and antagonists may also be used to
 downregulate protein expression and activity. The antibodies may also be
 used as diagnostic agents for detecting the presence of flea polypeptides
 in samples (e.g., by enzyme linked immunosorbent assay (ELISA)). The
 present sequence represents a cat flea HMT cdna of the invention.

Sequence 1968 bp; 639 A; 481 C; 329 G; 519 T; 0 other;

Query Match 21.8%; Score 791; DB 21; Length 1968;

Best Local Similarity 64.3%; Pred. No. 1,8e-112;

Matches 1238; Conservative 0; Mismatches 675; Indels 12; Gaps 3;

QY 312 ATTCCAGGTGTGTCATATGATGATTTCCATATGATTTGGGTCAGAAAAATGT 371
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 DB 1924 ATTCTGTGGATGTGGCAATATGATGATTTCCATATGATTTGGCACTGTATATGCC 1865
 QY 372 AAGACAGAGAAAGCATATACGATCAACAGCAAAAAGAAAGATTCAGATGGGAATG 431
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 DB 1864 AGAGATGATGATGACATCATATATGTTAAAAAAGACAAAGCTCTATAGACCTG 1805
 QY 432 ACNAAAAGTTTGTATGATGCTGTGTCAGATGCTACTACTAATCACTACAGATTGGCA 491
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 DB 1804 ATTAAGGTCGCCATGATGCTGCTGAGTGTGCTGTCTCTAGTCGGGCTGCTG 1745
 QY 492 TCAGGGGCACTGGCCGATTAATAGACATTTGCCGATGGATGATGATGATGATGATG 551
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 DB 1744 ACAAGAGCTATTTGAGGCTCATATGATGATGAGCAAGTTGAGGATTTAAAGAAC 1685
 QY 552 GGCATTTGCCCTTAGTGTGTGTACCAACAGCAAGCTGTGTGGGATCTTAATGAA 611
 || || || || || || || || || || || || || || || || || || || || ||
 DB 1684 GGTGTTGCCCAACAGATTTCTGTTGTAATAGAGAACAAATGTTGTTGATTAATGAA 1625

OY	612	ACGCAATTTGAAGGAGGAGGATTAATATCCAGATGGAAACATGGGCGAATTAATCA	671
OY	612	ACGCAATTTGAAGGAGGAGGATTAATATCCAGATGGAAACATGGGCGAATTAATCA	671
Db	1624	ACAACCTTTGATGA - - TGAAAAATCTCACACATGGCTGACCTGGCCGTGAGGTTTTGCGA	1568
OY	672	GGTCAACACAGAGGGCTCCGTGTTCTTATATCAGAACATACATATATGATCATCTTCGGGCC	731
Db	1567	CAACCTAGAACTGGGGGGGGCTTACATATATGCTTATTCTTTATATATTTATTTGGSCA	1508
OY	732	TTGAGTTTGGCTTCTTGCGATGTTTCCGTGTAAGATATTTGTCATATATGCTTGGC	791
Db	1507	TTGATTTTGTCTCTTTTGCGAGCCCTCTTGTTGGCCGATGTTTGACCTTATGCTTGTCG	1448
OY	792	TCGTGAATTCACAGATTAATAACTATTTTAATGGATTTATATATCAGAGTTACTTGGGA	851
Db	1447	TCAGGTATACCAGATTAATAAACCATTCGAGTGGTTCTATCATCAGAGGATATCTTGGA	1388
OY	852	AAATGAGCTTTAATGATTAACATCACATTAAGTCCCTGGCTGGCATCAGGTTTGGT	911
Db	1387	AAATGAGCAATTTGATTAATAAAGTATGAGAAATCATGTTTCTGTATCAGCTGATTTGCT	1328
OY	912	TTAGAAAAAGAGGTCCTCCGTCATGTTGCTGTGCTGGGAAATATCTTTTCATC	971
Db	1337	TTTGCGTAAAGAGGTCCTATGATACATTTGCCAGCTGTATAGTAATATATTTGCTTAT	1268
OY	972	CTCTTTCCAAAGTATACACAACAGAGCTAAAAAAGGAGAGTCTATCAGCTCCCA	1031
Db	1267	TTATTTTCTTAATATATGCTGCGAATGAAAGCAAAACGAGAAATTTTATCAGCACCTGCA	1208
OY	1032	GCTCCAGAGGGTTCTGATGCTTTTGGTGCACCAATTTGAGAGATTTCTTTAGCCTGGA	1091
Db	1207	GCACCTGCTATCTGTGTCATTTGGAGCACCATTTGGAGGTGTCTTTTCAGTTTGGAA	1148
OY	1092	GAGGTATGCTATTAATTTTCTCTCAAAAGCTTATGAGATCATTTTTTGCTGCTTATG	1151
Db	1147	GAGGTGAGCTACTATTTTCCATTTGAAGACCTTATGAGATCATCTTCTGTGCTTGATA	1088
OY	1152	GCTGCATTTGTTTGGAGTCCATCATTCATTTGGTAACAGCCGTGCTCTTTTAT	1211
Db	1087	GCACCTTTCATTAATTTGCGCATTAATAATCCATTTGGAAGAGACCTCTGCTCTTTTAT	1028
OY	1212	GTGAGATCATATACACCATGATGCTTTTGAACCTTTTCCATTTATCTTCTAGGGTA	1271
Db	1027	GTGGAATATACATTAACCTTGGATATTTTGGACGTATACCTTTATAGCCTTGGATA	968
OY	1272	TTTGGAGGGCTTTGGGAGGCTTTTTCATTTAGGGCAAAATTTGCCGTGTGTGACGC	1331
Db	967	ATGTGCTGTGTTGAGCAACGCTGTTATATAAAGTAATTTGACTGGTGTGCTACCGT	908
OY	1332	AAATGCCACGAATTTGGAAGTATCCCGTTCTGGAAGTCATTATTTGTGACCATTA	1391
Db	907	AAATTTTCTAAACTAGAGCAGTACCCCGTTCGAGAAATTTAGTTTGTCTGCTGTGCAACA	848
OY	1392	GCTGTATAGGCTTCCCTATTCATCATACATAGGCTTAACACAGAGAACTGATCAACAG	1451
Db	847	GCAGTGATTTGCTTATCTTATCTTATCTTACACAGAGTAAATAGTCACTGATTTATTTA	788
OY	1452	CTTTTTCACAGCTGTGCTCCCTCGATGCTCTCTCTTTTGAGATCAGAAATGACATG	1511
Db	787	CTATTTCAGCCAAATGCGGAGTTCCATTTGATCTCTTGTGTGATTTACAAATGCAATTC	728
OY	1512	AATGCCAGTAAATTTGTCATGACATTTCTGATGCTCCAGCAGCAATGAGACTATATCA	1571
Db	727	ACTGATGTTAAATCAGCTAATAGAAAATAGAG - - - - - CAGCTGGTCCGTGCTACAG	674
OY	1572	GCTATATAGGAGTTTATCCCGGACATCATATTTAAATCATATACAGATATTCATCTTT	1631
Db	673	GCTGTGTGTTGCTCTGATTTGCTTTGTGATCTGAATTTGGATATCCTATTTATACCTTT	614
OY	1632	GGCATCAAGGTTTCCATAGGCTTTGTCATCCCGACAGATGGCAATTTGAGCAGATCGACA	1691
Db	613	GGTATGAAAGTACCATGTGCTGTGTTTATCCCAAGTTTATGCTATAGAGCATATATATGGCT	554
OY	1692	AGGATTTGGGGAGTTGCGGTGGAGACGCTTCCCTACTATCACACGACTGTTTATCTTT	1751

[illegible]

XX Ebens AJ, Francis-Lang H, Keegan KP, Stout TJ, Kellerman KA;
PI Torpey J;
XX WPI: 2001-355882/37.
DR P-PSDB: AAE02339.
XX
PT Invertebrate receptor nucleic acids isolated from Drosophila
PT melanogaster which can be used to genetically modify metazoan
PT invertebrate organisms resulting in expression or mis-expression of the
PT receptor protein
XX
PS Claim 4: Page 69-70; 76pp; English.
XX
CC The patent discloses invertebrate receptor nucleic acids and
CC proteins isolated from Drosophila melanogaster. The sequences
CC of the present invention are used to genetically modify metazoan
CC invertebrate organisms such as insects and worms, resulting in the
CC expression or mis-expression of the receptor protein. The nucleic
CC acid molecules of the invention are used as hybridisation probes, in
CC expression vectors and to modify a host cell or animal and therefore
CC provide new means of providing biopesticides. The genetically modified
CC organisms are used in screening assays to identify compounds that are
CC potential pesticidal agents or therapeutics that interact with the
CC receptor proteins.
CC The present sequence is a DNA encoding Drosophila melanogaster
CC chloride channel (dmc1C) protein.
XX
SQ Sequence 3366 BP; 880 A; 743 C; 843 G; 900 T; 0 other;
Query Match 21.8%; Score 789.6; DB 22; Length 3366;
Best Local Similarity 60.9%; Pred. No. 2.9e-112;
Matches 1357; Conservative 0; Mismatches 859; Indels 12; Gaps 4;
QY 325 GTACATATGATGATTTCCATCTATGTTGGTCCGGAAGAAATGTAAACAGCAGAAA 384
DB 425 GGAGGTACGGAAGATTTTACACCAATGATTTGGCAGCGGACATTTGCCGTATGGATGC 484
QY 385 GGATATGACGATACACAGCAAAAGAAAGATCAGATGGGAATGCAAAAGTTTGT 444
DB 485 GACATCGTATACATAGTACAGAGGACAGACATCTTGTGGATCTGATAAGGGTTTCCA 544
QY 445 ATGATGCTGTCAAGATGCTAGTACATACAGATTGGCATCAGGGGCACTGG 504
DB 545 TTGATGCGGATCTGGGCTATGTTTACCTGCTGCGATTTGCCAGGCTGTGGG 604
QY 505 CCGATTTATATGACATTTGCTCCGATTTGATGACATGACATTAAGAGGAGGCAATTTGCCCTA 564
DB 605 CGGCAATGATGACATTTGAGACTAGTTGATGCTGATCTAAAGCATGCGATTTGTCCAC 664
QY 565 GTGGCTTGTGTACACACAGCAAGCTGTTGGGATCTAATGAAACAACTTTGAG 624
DB 665 CGGCTTTGGTTTAAAGGAGCAATGCTCTATCCGGCCAAACAGTATTTTGAAG 724
QY 625 AGAGAGGATTAATGTCCACAGTGGAAACATGGCAGATTAATCATAGGTCAAGCAGAG 684
DB 725 A--AGGCAACTGTGCGACGTGGAAACCTGGCCAGAGCATTTTGTGGATGGAATG 781
QY 685 GTCTGATTTATATGATGAACTAATATGATCATCTTGGGCGCTTGATTTTGGCT 744
DB 782 GCACCGGACATATATCTCCCTTACATCTGTATGTCTTGGGCTTTTGTGCTT 841
QY 745 TTCTTGACGTTCCCTGGTAAAGTATTTGCTCCATATGCTGTGGCTCTGGAATTCAG 804
DB 842 CGCTACAGGCTCCCTGTGTGGAATGTTGGCCCTACGCTGGGATCTGTATTTCCG 901
QY 805 AGATTAACATATTTTAAGTGGATTCATCAGAGTTACTTGGGAAATGCACTTTAA 864
DB 902 AGATTAACATCTTGTCTGGCTTCAATTAACGCGCTATCTAGGAAGTGCAGCGTGC 961
QY 865 TGATTAACATCATCATATGATGCTGGCTGGATCAGAGTTGAGTTAGAAAAGAG 924
DB 962 TGATCAATTCGTTGGTGTGATGCTGTGTATCCGCTGCGCTACATTTGGGCAAGAG 1021

QY 925 GTCCCTGTACATGTCGCTTGTGCTGGGAAATATCTTTTCTACCTTTTCCAAAGT 984
DB 1022 GACCATGCTCCACATTTGCCAGTTGTATTTGGAACATATTTCTACATATTTTCCAAAT 1081
QY 985 ATAGCAACAAGAGCTAAAAAAGGAGGTCTATCAGTCCCTCAGCTCAGGGGTTT 1044
DB 1082 ATGGTGAAATAGAGCCCAAGAGCGTAGATTTCTTCCGACAGACAGCGGAGCGTCT 1141
QY 1045 CTGTAGCTTTTGTGACCAATTTGAGAGTTCCTTTTACCTGGAAGAGTTAGCTATT 1104
DB 1142 CGGTGGCTTGGAGCAACCAATCGGTGAGTTCCTTTTCCCTGGAGGAAGTGTATCT 1201
QY 1105 ATTTTCCTTCAAACTTATGAGATCATTTTTCCTTGTAGTGGCTCATTTGTTT 1164
DB 1202 ATTTTCATTTGAGACATTTGCGGCTTATCTTTTGTGATGATTTCCGATTCGTTT 1261
QY 1165 TGAGTCCATCAATTCATTTGTAACAGCGTGTGCTCTTTTATGAGAGATCATTA 1224
DB 1262 TACGATCATGACGCGCTTGGCAACGAGCATTCGCTCTTTTTCGTGAGATATACA 1321
QY 1225 CACCATGTACTTTTGAATCTGTTTCTTTATCTTCTAGGGGTATTTGAGGCGTTT 1284
DB 1322 AGCCCTGATCTTTTTCGAACTTATCTCTTGTGCTGGAATTAAGGAGCTTTTACAGCT 1381
QY 1285 GGGAGCGCTTTTTCATTTAGGCAAAATATTTGCCGTGTCGACGCAAGTCCAGAAAT 1344
DB 1382 TTGGCATCTTCTTCATCAAGGCAATTTGTGTGTGCGCTACAGGAAGTTCAGCAAGC 1441
QY 1345 TTGGAAGTATCCGCTTCTGAGAGTCAATTAATTTTGGACGCAATTAAGTATAGCTT 1404
DB 1442 TCGGACATATCTAGTAATGGAAGGCTCTCTTACCTGCTGATCCATTCATTTTCT 1501
QY 1405 TCCCTAATCCATACATAGTGTAAACACAGTGAAGTATCAAGAGCTTTTACAGCT 1464
DB 1502 ACCCAATCCATTTACCGGAATGAACAGAGTCAATTAATTTCTTATGTTGACAGT 1561
QY 1465 GTGGTCCCTGGAATTCCTTCTTGTGACTACAGAAATGACATGATCCAGTAAAA 1524
DB 1562 GCTACCGGAGATGTACCAATCCGTTATGATTTACAGGCGATGAACTACAGCTGG 1621
QY 1525 TTGTGATGACATTCCTGATGCTCCAGAGGCAATTTGAGATTAATTCAGTATAGCAGT 1584
DB 1622 GCAACAGTTTATTAAGATTTGAGAGGCGAGTCCGTGTGTATACAGCTCAATTTGGCTGC 1681
QY 1585 TATGCTGACATCATATTTAAATCATATGACATGATTAATCTTTGGCATCAAGGTTTC 1644
DB 1682 TTATGCTACCTTTATATCTTAATGAGTGGCTTACACATCTTACGTTTGGCAAGTGC 1741
QY 1645 CATCAGGCTTGTATCCCAAGCATGGCATTTGGAGCGATGCGAAGAGATTGTGGGGA 1704
DB 1742 CCGCTGCTGTATTAATCCGCTGCTCTTGGCGCATCATGAGGTCGCAATTTGTGGA 1801
QY 1705 TTGGGTGTGAGACCTTCCCTACTATCACACAGCTGTTTATCTTTAAGAGTGTGTG 1764
DB 1802 TCGGTGTGAGACATTTGGCTTACAGCTATCCCAATTAATTTGTTTACCGTAGTGTG 1861
QY 1765 AGGTGCGGCGATTTGATTCACCTGCTTATATGCAATGTTGAGTGTGCTCATGCT 1824
DB 1862 CGGACAG---CAATCTATACACCCGAGCTGTATCGCGTGTGTGGAGCAGACACTGTGC 1918
QY 1825 TAGTGTGTGCAAGAATGACTGTCTCCGTTGTGTTATTTGATTTGACTTCTAGAG 1884
DB 1919 TGGAGGAGTCACTACGATGACCGCTCTCCCTGTAAGATATTTGTGAGACTAACAGGCG 1978
QY 1885 GCTTGAATATATTTCCCTTATGCTGTGATCATGACAGCAATATGTTGAGATG 1944
DB 1979 GAGTGGATATATTTGCTGCTGATGAGTGTGCGGATGCGCTCAAGTGGTGTGATG 2038
QY 1945 CTTTGGAGGAGGAGGATTTATGAGACACATTCGATTAATGATTAATGATCCCTTTTGG 2004
DB 2039 CTCTGGGAGGCAAGGATATCTACAGATGCGACATTTGGCGCTGAATGTATTCGTTCTAG 2098

OY	2005	ATGCAAGAAGAAATTCATCACTATACACACCTGGGTCGTGACGTTATGAGACCTGCAGACGA	2064
Db	2099	ACACGAAGAAGAGATTGGCCATACACACATGGCCGCAATGTGTATGCAACCAAGCGGA	2158
OY	2065	ATGATCCCTCCCTTAGCTGCTGCACACAGACAAATATGACATGGATGATATAGAAAACA	2124
Db	2159	ATGAACCT---TGAAATGTATTATACCAGAGACTCCATCGAGGTGGACAGTGTGTGAAMCC	2215
OY	2125	TGATTAAATGAACACAGCTACAAATGATTTTCCTGTCTAATATGTCAAAAGAAATCTCAGAGAT	2184
Db	2216	TTCTTAAGGAAACGAACACAATGGCTATTCGGGTGGTGTGTCGGGGAGAAATCAATATT	2275
OY	2185	TAGTGGGATTTGGCCCTCAGAAAGAGACCTGACAAATTCATATAGAAAGTGCAGAGAAAAC	2244
Db	2276	TAGTGGGCTTTGTATTGCGAGGAGATCTTAACCTTGSCCATAGGCAATGCAAGCTCTAA	2335
OY	2245	AAGAAGATCATGTTGGCAGATTTCTCGGGGTGTTTTCACAGCAGACACCCCAATCTCTTCAG	2304
Db	2336	TGCGAGGCGATTAGCAGCAGCTCCATAGTATTTATTCACA---TCATATCCAGCCTATTCAAA	2392
OY	2305	CAGAAAGCCCTCGGGCCATTCACCTTCGAAAGCATTCCTGACATGAGCCCTTTACAGGA	2364
Db	2393	ATCTGGAGACCCCGACCCGCTTAACCTGAAAAGATCTCGATATGGCACCGATCACAGTTA	2452
OY	2365	CAGACACACACCCCAATGAGATGTGTGATATTTTCCGAAAGCTGGAGACTGAGGCACT	2424
Db	2453	CAGATCAAAAGCCCAATGAGAAACGAGTAGTAGACATGTTCCGAAAGCTGGAGACTGGGCCAA	2512
OY	2425	GCCCTTGTACTCAAAATGAGGGCGGCTCTTGCGCATTTATACAAAAAAGATATCTCCGCG	2484
Db	2513	CATTGTATACACACACGAGTGGCTACTGAGGCGTAATTAACAAAGAAATGTGCTGGCGCC	2572
OY	2485	ATATGGCCACAGAGGCGCAACCAAGACCCGCTTCATATATGTTCAACTGAATCTCACAGA	2544
Db	2573	ATGTGAGCAGAGATGAGAAACGAAGATCCCAATAGGCTGCTCTTCAACTGAATTTATACGC	2632
OY	2545	TGAGGAGA 2552	
Db	2633	CAATCAGA 2640	
RESULT 10			
AAC95405			
ID	AAC95405 standard; cDNA: 2191 BP.		
XX			
AC	AAC95405;		
XX			
DT	19-FEB-2001 (first entry)		
XX			
DE	Cat flea HMT VG C1 channel-like partial cDNA, SEQ ID NO:1908.		
XX			
KW	Cat flea; hindgut and Malpighian tubule nucleic acid; HMT;		
KW	flea infestation; vaccine; antiparasitic; therapeutic target;		
XX	diagnosis; detection; ss.		
OS	Ctenocephalides felis.		
XX			
PN	W0200061621-A2.		
XX			
PD	19-OCT-2000.		
XX			
PF	07-APR-2000; 2000MO-US09437.		
XX			
PR	09-APR-1999; 99US-0128704.		
XX			
PA	(HESK-) HESKA CORP.		
XX			
PI	Brandt KS, Gaines PJ, Stinchcomb DR, Wisniewski N;		
XX			
DR	WPI: 2000-656323/63.		
XX			
DT	Flea Malpighian tubule and head and nerve cord tissue derived nucleic		
XX	acids useful for the prevention, diagnosis and treatment of flea		

PT	infestations -
XX	
PS	Claim 1; Page 928-929; 964pp; English

The invention relates to novel cat flea (*Ctenocephalides felis*) nucleic acids which are expressed in hindgut and Malpighian tubule (HMT) tissue or head and nerve cord (HNC) tissue. The invention also relates to the encoded proteins. The invention additionally encompasses expression constructs, recombinant viruses and recombinant cells comprising the nucleic acids of the invention, recombinant production of the proteins, antibodies against the proteins, a method of identifying inhibitors of the proteins, and compositions comprising the inhibitors for administration to an animal. The nucleic acids, and the proteins they encode may be used in the prevention, treatment and diagnosis of diseases associated with flea infestations. For example, the nucleic acids may be used to produce an HMT or HNC protein according to standard recombinant DNA methodology by inserting the nucleic acids into a host cell and culturing the cell to express the protein. The HMT and HNC nucleic acids may also be used as DNA probes in diagnostic assays (e.g., PCR) to detect and quantitate the presence of cat flea or other homologous nucleic acid sequences in samples. They may also be used to study the expression and function of the proteins and their role in metabolism. The HMT and HNC proteins may be used as antigens in the production of specific antibodies, and in assays to identify modulators (agonists and antagonists) of HMT and/or HNC protein expression and activity. The anti-HMT/HNC protein antibodies and antagonists may also be used to downregulate protein expression and activity. The antibodies may also be used as diagnostic agents for detecting the presence of flea polypeptides in samples (e.g., by enzyme linked immunosorbent assay (ELISA)). The present sequence represents a cat flea HMT cDNA of the invention.

Sequence 2191 BP; 661 A; 327 C; 455 G; 748 T; 0 other;

Query Match	20.38;	Score 736.4;	DB 21;	Length 2191;
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Matches 1163; Conservative 0; Mismatches 641; Indels 12; Gaps 3,

QY 735 AGTTTGGCTTCTTGACAGTTTCCTGGTAAGAATTTGCTCCCATATGCGCTGTGCCTCT 794
| | | | | | | | | | | | | | | | | | | | | |
Db 1 ATTTTTCGTTCTTTGGCAGCGCTTGTGGTCCGCAATTTGCACCTTATGCTTGTGGGTCA 60

QY 795 GGAATTCGAGAGATTAAACTATTTTAAGTGGATTCATCATCAGAGGTTACTTGGAAA 854

Db 61 GGTATACCAGAGATTAAACCATTCGTGAGTGGTTTCATCATCAGAGGATATCTTGGAAA 120

QY 855 TGGACTTAAATGATTAAACCATCACAATTAGTCCCTGGCTGTGGCATCAGGTTTGAGTTTA 914

Db 121 TGCACATTGATTATTAAAGGTAGGAATCATCTGTCTGTATCAGCTGGATTGAGTTTC 180

QY 915 GGAAGAAGTCCCCCTGGTACATGTTGCCCTGCTGGGAATATCTTTCCCTACCTC 974

Db 181 GGTAAAGAGGTCCTATGGTACACATTCGCCAGCTGTATAGGTAATATATTTGCTTATTTA 2400

QY 975 TTTCCTAAGTATAGCACCAACGAAGCTAAAAAAGGAGGTGCTATCAGCTGCCTCAGCT 103

Db 241 TTTCCCTAAATATGGTCGGAATGAAGCAACGAGAGATTTTATCAGCAGCTGCAGCA 3000

QY 1035 GCAGGGTTTCTGTAGCTTTTGGTGCACCAATTGGAGAGTTCCTTTTAGCCTGGAAGAG 109

Db 301 GCTGGTATCTGTTGCATTTGGAGCACCTATTGGAGGTGCTTTTCAGTTTGGAGAG 360

QY 1095 GTTAGCTATTATTTCCTCTCAAACTTTATGGAGATCATTTTTCCTGCTTTAGTGGCT 115

Db 361 GTGAGCTACTATTCCCATTTGAGACCCTTATGGAGATCATCTTCTGTGCTTGTAGCA 420

QY 1155 GCATTGTTTGAGGTCATCAATCCATTGGTAACAGCCGTCGTCCTTTTATGTC 121

Db 421 GCCTTCATATGCGATCCATAATCCATTTCGAAATGACCACTCTGTCCTTTCTATGTG 4800

QY 1215 GAGTATCATACACCATGGTACCTTTTGAACCTGTTCCCTTTATTCYTCTAGGGGTAATTT 1227

Db 481 GAATACAATAACCTTGGATATTTTTGAACGATACCTTCATAGGCCCTTGAATAATT 540

QY	1275	GGAGGGCTTTGGGAGCGCTTTTCATTATAGGGCAAAATATTTGCCGTGCTGTGCAGCAAG	1334
Db	541	GGTGGTGTGTAGCAGCGCTGTATATAAAGCTAAATTTGTACGTGGTGTACCGCTAA	600
QY	1335	TCCAGCAAAATTTGGCAAGATATCCCGTCTCGAAGTCATTATGTTCACCACCTTACTGT	1394
QY	601	TTTTCTAAACTAGCAGATACCCCGTTGCAGAAAGTTTTAGTTGTCTGTGCACAGCA	660
QY	1395	GTGATAGCCCTTCCCTAATCCATACACTAGGCTAAACACAGTCACTGATCAAAAGCTT	1455
Db	661	GTGATTTGTTATCCTAATCCCTTACACCGAGTAAATACAGTCACTGATTAATTTACTA	720
QY	1455	TTTACAGACTGTGGTCCCGCTGGAAATCCCTCTCTCTGTGACTACAGAAATGACATGAT	1514
Db	721	TTTACCCCAATCGGGATTTTCCAAATCTGATCCCTTGTGTGATACAAATGCCAATTCCT	780
QY	1515	GCCAGTAAATTTTCATGATGACATTTCTGATGTCCACAGCAGCATTTGAGTATATTCAGCT	1574
Db	781	GATGTAAATCATGCTATAGAAATATGACG-----CAGCTGGTCTGGTGTCTTCCACAGCT	834
QY	1575	ATATGAGCATATATGCGTGGCCATATTTTAAATCATATGACAGTATATTCATTTTGGC	1634
Db	835	GTGTGCTTCTCCTCGATTCTTTGTGTACTAAATTTGGAAATGCTGTATTTACTTTGGT	894
QY	1635	ATCAAGTTCATCAGGCTTTGTTTCATCCCGAGCATGGCCATTGGACGATTCGACAGAAAG	1694
Db	895	ATGAAGATACCATGTGGTGTCTTTATCCCAAGTTTATGCTATGAGACCTATATATGGGTAGA	954
QY	1695	ATTGTGGGGATTTGGGGTGGAGCAGCTTGGCTACTATACACAGACTGGTATATCTTAAG	1754
Db	955	ATTGTGGGCATTGGAAATTTGACAAATTTGGCTACTATATTCACAAATATATGTCTCTTTCT	1014
QY	1755	GAGTGTGTGAGTGTGGGGCTGATTTGCATTACACCTGGCCCTTTATCCATGGTGGTGTCT	1814
Db	1015	GGTGATATCTCACTAGTGAGACAATTTGATCATCACCGGGCTGTATGCTATGTGTGGGCTCT	1074
QY	1815	GCTGATCTTAAGTGTGGTGGACAAAGATACGTCTCCCTGGTGGTTATTTGTTTTAG-	1874
Db	1075	CGAGCTGTTTATAGTGTGTGTCTACAGATACAGTTTCTGTGGTGAATTAATTTGTTTAA	1134
QY	1875	CTTACTGAGGCTTTGGAATATTTGTTTCCCTTATGGCTGACGTATGACCGTAAATGG	1934
Db	1135	CTGACTGTGTGTATACGTTTATATTCGTGCCCTTAATGCGACAGCTATGCTCTCCAAATGG	1194
QY	1935	GTTCGAGATGCTTTTGGCAGGGAAGCATTTATGAAGCACACATCCGATTAAATGATAC	1994
Db	1195	GTGGGTGATGCTTTTGGGCAACAGGGATATAATGATGCCCAATATACAGTTATATGAAAT	1254
QY	1995	CTTTTCTTGATGTGCAAAAGAAATTCATCATACACCCTGGCTGTCTACGTTTATGAGA	2054
Db	1255	CCATTCCTTGGACATTAAGATGAAATTTTGCACATACACTTTTACCTGTGAGATGTCAAG	1314
QY	2055	CCTCGAGGAATGATCTCTCCCTTAGCTGTCTGTACACAGAGACAATATGACAGTGGATAT	2114
Db	1315	CCCAAGAGGAATGA---AACAATTAAAGTAAATCTCAAGACTGCATGCTGTGGATAT	1371
QY	2115	ATAGAAACATGATTAAATGAACACAGTCAATATGAAATTTCTGTCAATATGTCAAAAGAA	2174
Db	1372	GTTCGAGGTTTACTGAAGAAACATGACACCAATATGATATCCAGTTGTGTTTCCAGAA	1431
QY	2175	TCTCAGAGATTAGTGGGATTTTGGCCTCAGAAAGACCTACACATTTGCAATAGAAAGTCC	2234
Db	1432	TCTCAGTATCTTGTGTGATTTGTTTGGAGAGGACTTAAATCTAGCAATATGCCAATGCT	1491
QY	2235	AGGAAAAACAAGAAGTATTCGTTGGCAGTTCTCGGGGTGTTTTTGCACAGCACACCCCA	2294
Db	1492	AGACGCATGATGATGGGATATACAGGCAAAAGTTTGTACTTTTCATA---ATGTGCCCT	1548
QY	2295	TCTCTTCAGCAAGAAATCCTCGGCCAATTTGGAACCTTCGAAGATCTTGACATGAGCCCT	2354
Db	1549	ACAGTGCAAAGTTTAGACACTCCACCTTTTGAACATAAAGAAATATTTAGATATGGCTCA	1608
QY	2355	TTTAAAGTACAGCACCAACCCCAATGTGAGATTTGTGTGATATTTTCCGAAGCTGGGA	2414

Db 1609 ATACAGCTGACTGTATCAAAACCACATGGAACTGTGTGATATTGTTAGAAAACACTAGT 1668
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Qy 2415 CTGAGGCAGTCGCCCTTGTTAACTCCACAATGGCGCCCTCCTTGCGCATTTATAACAAAAAAGAT 2474
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 1669 TTACGTCGACATCATGATGCACACACAAATGGCGCTTTGCTGCTGATTTAACTAAAAAGAT 1728

Qy 2475 ATCTCCCGGCATATATGGCCCAACAGCGGCAACCAAGAACCCCCGTTCAATATGTTCAACGA 2534
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 1739 GTTTTACACACTGTGTAATAAACAATGGATTAATGAAGATCTTAATGATATVACTTTTAAATTAA 1788
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Qy 2535 ATCTCACAGATGAGA 2550
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 1789 TATTTACATATATGTA 1804

RESULT 11
AAC95406/c
ID AAC95406 standard; cDNA; 2191 BP.
xx AAC95406;
AC
xx AAG95406;
DT 19-FEB-2001 (first entry)
xx
DE Cat flea HMT VG C1 channel-like cDNA complement, SEQ ID NO:1909.
xx
KW Cat flea; hindgut and Malpighian tubule nucleic acid; HMT;
KW flea infestation; vaccine; antiparasitic; therapeutic target;
KW diagnosis; detection; ss.
xx
XX Ctenocephalides felis.
OS
PN WO200061621-A2.
PN
xx 19-OCT-2000.
PD
xx 07-APR-2000; 2000WO-USO9437.
PF
xx 09-APR-1999; 99US-0128704.
PR
xx (HESK-) HESKA CORP.
PA
xx Brandt KS, Gaines PJ, Stinchcomb DT, Wisniewski N;
PI WPI: 2000-656323/63.
DR
xx
xx Flea Malpighian tubule and head and nerve cord tissue derived nucleic
PT acids useful for the prevention, diagnosis and treatment of flea
PT infestations -
xx
PS Claim 1; Page 929-930; 964pp: English.
PX
XX The invention relates to novel cat flea (*Ctenocephalides felis*) nucleic
CC acids which are expressed in hindgut and Malpighian tubule (HMT) tissue
CC or head and nerve cord (HNC) tissue. The invention also relates to the
CC encoded proteins. The invention additionally encompasses expression
CC constructs, recombinant viruses and recombinant cells comprising the
CC nucleic acids of the invention, recombinant production of the proteins,
CC antibodies against the proteins, a method of identifying inhibitors of
CC the proteins, and compositions comprising the inhibitors for
CC administration to an animal. The nucleic acids, and the proteins they
CC encode may be used in the prevention, treatment and diagnosis of diseases
CC associated with flea infestations. For example, the nucleic acids may be
CC used to produce an HMT or HNC protein according to standard recombinant
CC DNA methodology by inserting the nucleic acids into a host cell and
CC culturing the cell to express the protein. The HMT and HNC nucleic acids
CC may also be used as DNA probes in diagnostic assays (e.g., PCR) to detect
CC and quantitate the presence of cat flea or other homologous nucleic acid
CC sequences in samples. They may also be used to study the expression and
CC function of the proteins and their role in metabolism. The HMT and HNC
CC proteins may be used as antigens in the production of specific
CC antibodies, and in assays to identify modulators (agonists and
CC antagonists) of HMT and/or HNC protein expression and activity. The

CC anti-HMT/HNC protein antibodies and antagonists may also be used to
 CC downregulate protein expression and activity. The antibodies may also be
 CC used as diagnostic agents for detecting the presence of flea polypeptides
 CC in samples (e.g., by enzyme linked immunosorbent assay (ELISA)). The
 CC present sequence represents a cat flea HMT cDNA of the invention.
 XX
 XX Sequence 2191 BP, 748 A; 455 C; 327 G; 661 T; 0 other:

Query Match 20.3%; Score 736.4; DB 21; Length 2191;
 Best Local Similarity 64.0%; Pred. No. 4e-104;
 Matches 1163; Conservative 0; Mismatches 641; Indels 12; Gaps 3;

QY 735 AGTTTGGCTTTTCGACGTTTCCCTGGTAAAGGATTTGCTCCATATGCTGCTGCT 794
 Db 2191 ATTTTGGCTTTTCGACGCTTTGGCGCATTTGTCACCTTATGCTTGGTGCA 2132
 QY 795 GGAATTCAGAGATTAAACATTTTATAGTATTCATCATCAGAGGTTACTTGGGAAA 854
 Db 2131 GGTATCCAGAGATTAAACATTCCTGAGTGTTCATCATCAGAGATATCTGGGAAA 2072
 QY 855 TGGACATTAATGATTAAACCATCATCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 914
 Db 2071 TGGACATTAATTAATTAAGTATGAGATCATGTTGCTGCTGCTGCTGCTGCTGCTGCT 2012
 QY 915 GGAAGAAGAGTCCCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 974
 Db 2011 GGTAAAGAGGCTCCATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1952
 QY 975 TTTCGAAGTATGACACAAAGAGCTTAAAGAGAGGAGGCTGCTGCTGCTGCTGCTGCTGCT 1034
 Db 1951 TTTCGAAGTATGACACAAAGAGCTTAAAGAGAGGAGATTTATGACAGAGCTGACACA 1892
 QY 1035 GCAGAGGCTTCTGAGCTTTTGTGACACCAATGAGAGGATTTTATGAGCTGCTGCTGCTGCT 1094
 Db 1891 GCTGCTGATCTGTTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1832
 QY 1095 GTTACGATTTATTTTCTCTCTCAAACTTTATGAGATCATTTTGTGCTTATGAGCT 1154
 Db 1831 GTGAGTCTATTTTCTCTCTCAAACTTTATGAGATCATTTTGTGCTTATGAGCT 1772
 QY 1155 GCATTTGTTTGTGAGTCCATCATCATCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1214
 Db 1771 GCTTTCATATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1712
 QY 1215 GAGTATCATACACCATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCT 1274
 Db 1711 GAATATCATACACCATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCTTATGCT 1652
 QY 1275 GGAAGGCTTTGGGAGCTTTTCAATAGGCAAAATATGCTGCTGCTGCTGCTGCTGCTGCT 1334
 Db 1651 GGTGCTGCTTTGGGAGCTTTTCAATAGGCAAAATATGCTGCTGCTGCTGCTGCTGCTGCT 1592
 QY 1335 TCCAGCAAAATTTGGAAGATCCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1394
 Db 1591 TTTTCTAATACAGACAGTACCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1352
 QY 1395 GTGATAGCTTCCCTAATTCATACAGTAAAGCAACAGTAAAGCAAGCTT 1454
 Db 1531 GTGATAGCTTCCCTAATTCATACAGTAAAGCAACAGTAAAGCAAGCTT 1412
 QY 1455 TTTTACAGAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1514
 Db 1471 TTTTACAGAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1412
 QY 1515 GCCAGTAAATTTGCGATTCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1574
 Db 1411 GATGTTAATATAGCTAATAGAAATAGAG-----CAGTGTGCTGCTGCTGCTGCTGCTGCT 1338
 QY 1575 ATATGCAAGTATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1634
 Db 1357 GTGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1298
 QY 1635 ATCAAGGTTTCATCAGGCTTGTTCATCCCAAGCATGGCCATGGAGGAGATGCGAGAGG 1694

Db 1297 ATGAAGATACCATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1238
 QY 1695 ATTTGGGAGTGGCGGTGAGAGAGCTTCCCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1754
 Db 1237 ATTTGGGAGTGGCGGTGAGAGAGCTTCCCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1178
 QY 1755 GAGTGTGTGAGGCTGGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1814
 Db 1177 GGTGAATCTCACTAGAGAGCAATTCATCATCACAGGCTGCTGCTGCTGCTGCTGCTGCTGCT 1118
 QY 1815 GCTGATCTTATAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1874
 Db 1117 GCAGCTGTTTATAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1058
 QY 1875 CTATCTGAGGCTTGCATATATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 1934
 Db 1057 CTGACTGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 998
 QY 1935 GTTGGAGATGCTTGGCGAGGAGGATTTATGAGACACATCCGATTAATGATGATC 1994
 Db 997 GTTGGATGCTTGGCGAGAGGATTTATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 938
 QY 1995 CTTTCTTGGATGCAAGAGATTTCACTATACCACTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2054
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 QY 2055 CCTGCAAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2114
 Db 877 CCAAGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 821
 QY 2115 ATGAAGATGATTAATGAAGAGGATTTATGAGACACATCCGATTAATGATGATGATGATGAT 2174
 Db 820 GTTGAAGTATTAAGAGAGAGATTTATGAGACACATCCGATTTGCTGCTGCTGCTGCTGCTGCT 761
 QY 2175 TCTGAGATTAAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2234
 Db 760 TCTGAGATTAAGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 701
 QY 2235 AGSAAAGAGAGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2294
 Db 700 AGAGCATGATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 644
 QY 2295 TCTCTCCAGCAGAGAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2354
 Db 643 ACAGTGCAGAGTATGAGAGCTTCCACCTTTGAACCTTAAGAAATATTTGATATGCTGCTGCT 584
 QY 2355 TTTACAGTACAGACACACCCCAATGAGATTTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2414
 Db 583 ATACAGTACAGTACACACCAATGAGATTTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 524
 QY 2415 CTGAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2474
 Db 523 TTACGTACAGATTAAGTACACACATGAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 464
 QY 2475 ATCTCCGCTATGAGGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2534
 Db 463 GTTTTACAGACATGTAAGAAATGATTAAGAAATGATTAAGAAATGATTAAGAAATGATTAAG 404
 QY 2535 ATCTACAGATGAGGA 2550
 Db 403 TATTTACATATATGTA 388

RESULT 12
 ID AAS68176 standard; cDNA: 4794 BP.
 ID AAS68176;
 AC AAS68176;
 XX 13-FEB-2002 (first entry)
 XX DNA encoding novel human diagnostic protein #3980.
 DE

XX Human: chromosome mapping; gene mapping; gene therapy; forensic;
KM food supplement; medical imaging; diagnostic; genetic disorder; ss.
XX Homo sapiens.
XX WO200175067-A2.
XX
PD 11-Oct-2001.
XX
PF 30-MAR-2001; 2001WO-US08631.
XX
XX 31-MAR-2000; 2000US-0540217.
PR 23-AUG-2000; 2000US-0649167.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Dimaac RT, Liu C, Tang YT;
XX
XX WPI: 2001-639362/73.
DR P-PSDB; ABG03989.
XX
PT New isolated polynucleotide and encoded polypeptides, useful in
PT diagnostics, forensics, gene mapping, identification of mutations
PT responsible for genetic disorders or other traits and to assess
PT biodiversity -
XX
PS Claim 1; SEQ ID NO 3980; 103pp; English.
XX
XX The invention relates to isolated polynucleotide (I) and
CC polypeptide (II) sequences. (I) is useful as hybridisation probes,
CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome
CC and gene mapping, and in recombinant production of (II). The
CC polynucleotides are also used in diagnostics as expressed sequence tags
CC for identifying expressed genes. (I) is useful in gene therapy techniques
CC to restore normal activity of (II) or to treat disease states involving
CC (II). (II) is useful for generating antibodies against it, detecting or
CC quantitating a polypeptide in tissue, as molecular weight markers and as
CC a food supplement. (II) and its binding partners are useful in medical
CC imaging of sites expressing (II). (I) and (II) are useful for treating
CC disorders involving aberrant protein expression or biological activity.
CC The polypeptide and polynucleotide sequences have applications in
CC diagnostics, forensics, gene mapping, identification of mutations
CC responsible for genetic disorders or other traits to assess biodiversity
CC and to produce other types of data and products dependent on DNA and
CC amino acid sequences. AAS64197-AAS94564 represent novel human
CC diagnostic coding sequences of the invention.
CC Note: The sequence data for this patent did not appear in the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at [ftp.wipo.int/pub/published_pcl_sequences](http://wipo.int/pub/published_pcl_sequences).
XX
SQ Sequence 4794 BP; 1655 A; 1089 C; 960 G; 1090 T; 0 other;
Query Match 19.38; Score 701.2; DB 23; Length 4794;
Best Local Similarity 64.28; Pred. No. 9.7e-99;
Matches 1194; Conservative 0; Mismatches 483; Indels 183; Gaps 2;
OY 673 GTCAGCAGAGAGGTCCTGCTTATATACATGACATACATATGATCTTCCTGGGCT 732
DB 3116 GGCACCGAGAGGAGCCCTTCCCTACATAGTCAATTTATTTATGACTCTCTGGGGCTC 3175
OY 733 TGAGTTTTCCTTCTGCACTTCCCTGTAAGGTAATTTGCTCCATATCCCTGTGCT 792
DB 3176 TCTATTTTGGCTTCTGCTGCTATCTCTGTCAAGGTGTTGGCGCTTATCCGTGCT 3235
OY 793 CTGGAATTCAGAGATTAACATTTTAACTGATTCATATAGAGAGTTACTTGGAA 852
DB 3236 CTGGAATTCAGAGATTAACATTTTAACTGATTCATATAGAGAGTTACTTGGAA 3295
OY 853 AATGAGCTTATGATTAACATACATATGATGCTGGCTGGCATCAGTTTGAAT 912
DB 3296 AGTGAGCTCTGTTATCAAAACATCACCTGTGTGGAGTGTGCTGTGGAGCC 3355

OY 913 TAGCAAAAGAGTCCCTGTGATATGCTTGGCTGGGAAATATCTTTCTTACC 972
DB 3356 TGGCAAAAGAGTCCCTGTGATATGCTTGGCTGGGAAATATCTTTCTTACC 3415
OY 973 TCTTCCAACTATAGCAAAAGAGTCTTAAAGAGAGGAGTCTATCAGCTGCTCAG 1032
DB 3416 GCTTCACAAATATAGCAAAAGAGTCTTAAAGAGAGGAGTCTTATGCTGCTCAG 3475
OY 1033 CTGAGAGGTTTCTGATCTTTTGGTCAACATTTGAGAGTCTTTTATGCTTGGAG 1092
DB 3476 CAGCTGTGTATCTGTAGCTTTTGGAGCACTATAGTGGAGTATATTCAGCTTGAAG 3535
OY 1093 AGGTAGCTATATTTCTCTCAAAACCTTATGAGATATTTTCTCTCTTATG 1152
DB 3536 AGGTAGCTATATTTCTCTCAAAACCTTATGAGATATTTTCTCTCTTATG 3595
OY 1153 CTGATTTGTTTGAAGTCAATCAATTTGTTGTTGTTGTTGTTGTTGTTGTTGTT 1212
DB 3596 CAGATTCACCTTACGCTTACCAATTCATTTGGGAGAGGCTGCTATTTTATG 3655
OY 1213 TGAGTATCATACACCATGATGATCTTTTGAAGTCTTTTATTTTATGAGGAT 1272
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OY 1393 CTGATATGCTTCCCTTATCATATGATTTAAACACGAGTATGATTTAAAGAGC 1452
DB 3836 CCAATCTGCTTTTCCCAATGATATGATTTAAACACGAGTATGATTTAAAGAGC 3895
OY 1453 TTTTACAGCTGTGCTCCCTGGAATCTCTTCTTTGATCAAGAAATGATCA 1512
DB 3896 TGTGTTAAATGATGCTGCTTGTGATCTTCAAGCTGTGATTTAAAGAGC 3955
OY 1513 ATGCAATGAAATTTGATGATGATGATGATGATGATGATGATGATGATGATG 1572
DB 3956 ACACAGCAAA--GGGGTAACTGCTGAGAGAGGCTGGGAGTCTACAGT 4012
OY 1573 CTATATGCACTTATGCTTGGCACTATATTTAAATCATATGACATTTTCACTTT 1632
DB 4013 CAATGTGCACTTGGCTTAAACATGATGATGATGATGATGATGATGATGATGAT 4072
OY 1633 GCATCAGGTTCCATCAGCTTTGTTATCCAGAGTGGCATTGAGAGCATCCAGAA 1692
DB 4073 GCATCAGGTTCCATCAGCTTTGTTATCCAGAGTGGCATTGAGAGCATCCAGAA 4132
OY 1693 GGATTTGGGATTCGCTGAGAGAGCTGCTTATGATGATGATGATGATGATGAT 1752
DB 4133 GATTTGAGGATTCGCTGAGAGAGCTGCTTATGATGATGATGATGATGATGAT 4192
OY 1753 AGAGTGTGTGAGGCTGAGGCTGATTTGATTTTAAACCTGAGGCTTATGATGAT 1812
DB 4193 ATAGTGTGTGAGGCTGAGGCTGATTTGATTTTAAACCTGAGGCTTATGATGAT 4252
OY 1813 CTGCTGATGCTTATGATGATGATGATGATGATGATGATGATGATGATGATG 1872
DB 4253 CTGCTGATGCTTATGATGATGATGATGATGATGATGATGATGATGATGATG 4266
OY 1873 AGCTTACTGAGGCTTGAATATATTTTCCCTTATGCTGATGATGATGATGAT 1932
DB 4267 ----- 4266
OY 1933 GGGTTGAGATGCTTTGAGAGAGGATTTATGAAGACATGATGATGATGATGAT 1992
DB 4267 ----- 4266
OY 1993 ACCCTTCTGATGCAAAAGAAATTTCACTATACACCTGCTGATGATGATGAT 2052

Db 4267 -----GCCAAGAGAGTTGCTCATAGACCCTGGCATGATGTGATGA 4312
 CC TTTTCTGAGGATGATCCTCCCTAGCTGTGACAGACAGGACCAATATACACTGATG 2112
 Oy 2053 GACCTGAGGATGATCCTCCCTAGCTGTGACAGACAGGACCAATATACACTGATG 2112
 Db 4313 AACCCCGAGAAAGATCCTGTTGACTGCTTACTCAGGACAGATGACTGTGAG 4372
 Oy 2113 ATATAGAAACATGATTAATGAAACAGCTACATGATGATTCCTGTCATATGCAAAAG 2172
 Db 4373 ATGAGAGACATTAATGAGAAACACTTACAGTGGCTTCCAGTGGTATCCCGG 4432
 Oy 2173 AATTCAGATTAATGAGATTTGGATTTGCTCAGAGAGACCTGACATTTGCAAGAGTG 2232
 Db 4433 AGTCCCAAGACTGTGGCTTGTCTCCGAGAGATCTCATTTATTCATTTGAAATG 4492
 Oy 2233 CCAGAAAAAACAAGAGATGATGCTGGGAGTCTGGGATGTTTGGACAGACACCC 2292
 Db 4493 CTCGAAAGAAACAGATGGGCTGTTGACACTTCCATTCATTTATTCACGAGCATTTCTC 4552
 Oy 2293 CATCTCTCAGCAGAAAGCTCTGGCCATTTGAGCTTCGAAAGCATTTGACATGAGCC 2352
 Db 4553 CTCATTTGCCACCATACACACCTCAACCTCTAAAGCTTCGGAACATCTCGATCTGAGCC 4612
 Oy 2353 CTTTTAAGTACAGACACACCCCATGAGATTTGCTGATTTTTCGAAAGCTGG 2412
 Db 4613 CTTTCACTGAGCTGACCTTACACCCATGAGATGATGATTTTCCGAAAGCTGG 4672
 Oy 2413 GACTGAGCAGTGGCTTGAATCTCAATGAGGCGCTCTTGGCATTTAAACAAAAG 2472
 Db 4673 GACTGGGCGAGTGGCTGTTACACACAGGCGGATTTGGAATCATTTACCAAAAAG 4732
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 Db 4733 ATGATTAAGCATATAGACAGATGGCAACCAAGATCTGATTTCAATCTCTTCAACT 4792
 RESULT 13
 AAS69658 standard; cDNA; 4794 BP.
 ID AAS69658
 AC AAS69658:
 XX
 DT 13-FEB-2002 (first entry)
 XX
 DE DNA encoding novel human diagnostic protein #5462.
 XX
 KM Human: chromosome mapping; gene mapping; gene therapy; forensic;
 KM food supplement; medical imaging; diagnostic; genetic disorder; ss.
 XX
 OS Homo sapiens.
 XX
 PN WO200175067-A2.
 XX
 PD 11-OCT-2001.
 XX
 PF 30-MAR-2001; 2001WO-US08631.
 XX
 PR 31-MAR-2000; 2000US-0540217.
 PR 23-AUG-2000; 2000US-0649167.
 XX
 PA (HYSF-) HYSFQ INC.
 XX
 PI Drmanac RT, Liu C, Tang YT;
 DR WPI: 2001-639362/73.
 DR P-PSDB; ABG05471.
 XX
 PT New isolated polynucleotide and encoded polypeptides, useful in
 PT diagnostics, forensics, gene mapping, identification of mutations
 PT responsible for genetic disorders or other traits and to assess
 PT biodiversity
 PS Claim 1; SEQ ID No 5462; 103bp; English.

XX
 CC The invention relates to isolated polynucleotide (I) and
 CC polypeptide (II) sequences. (I) is useful as hybridisation probes.
 CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome
 CC and gene mapping, and in recombinant production of (II). The
 CC polynucleotides are also used in diagnostics as expressed sequence tags
 CC for identifying expressed genes. (I) is useful in gene therapy techniques
 CC to restore normal activity of (II) or to treat disease states involving
 CC (II). (II) is useful for generating antibodies against it, detecting or
 CC quantitating a polypeptide in tissue, as molecular weight markers and as
 CC a food supplement. (II) and its binding partners are useful in medical
 CC imaging of sites expressing (II). (I) and (II) are useful for treating
 CC disorders involving aberrant protein expression or biological activity.
 CC The polypeptide and polynucleotide sequences have applications in
 CC diagnostics, forensics, gene mapping, identification of mutations
 CC responsible for genetic disorders or other traits to assess biodiversity
 CC and to produce other types of data and products dependent on DNA and
 CC amino acid sequences. AAS64197-AAS94564 represent novel human
 CC diagnostic coding sequences of the invention.
 CC Note: The sequence data for this patent did not appear in the printed
 CC specification, but was obtained in electronic format directly from WIPO
 CC at ftp.wipo.int/pub/published_pct_sequences.
 XX
 SQ Sequence 4794 BP; 1655 A; 1089 C; 960 G; 1090 T; 0 other.
 Query Match 19.3%; Score 701.2; DB 23; Length 4794;
 Best Local Similarity 64.2%; Pred. No. 9.7e-99;
 Matches 1194; Conservative 0; Mismatches 483; Indels 183; Gaps 2;
 Oy 673 GTCAAGCAGAGGCTCGTGTCTTATATCAAGACTACATATGATACATCTTGGGCT 732
 Db 3116 GGCACCCAGAGGAGGAGCCCTTGGCTACATGATTTATTTATGATGCTCTGGGCTC 3175
 Oy 733 TGAGTTTGCTCTTGTGAGTTTCCCTGTAAGGATTTGCTCCATAGCCGTGGCT 792
 Db 3176 TCTATTGCTCTTGTGAGTTTCCCTGTAAGGATTTGCTCCATAGCTCTCTGGGCT 3235
 Oy 793 CTGGAATTCAGAGATTAACATTTAAGTGATTCATCATGAGAGTACTTGGGAA 852
 Db 3236 CTGGAATTCCTGAGATTAACATTTAAGTGATTCATCATGAGAGTACTTGGGAA 3295
 Oy 853 AATGACTTTAATGATTAACATCATGATTCCTGCTGCTGCTGCTGCTGCTGCTGCT 912
 Db 3296 AGTGGACTCTGATTAACATCATGATTCCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 3355
 Oy 913 TAGGAAGAAGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG 972
 Db 3356 TGGGCAAGAGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG 3415
 Oy 973 TCTTCCAAAGATATAGCAACAAGCAAGCTAAACAAAGAGAGGAGGAGGAGGAGGAG 1032
 Db 3416 GCTTCAACCAATACAGAGAGATGAACCAAGCCAGAGAGGAGGAGGAGGAGGAGGAG 3475
 Oy 1033 CTGCAGGAGGTTCTGATGCTTTTGGTACCAATGAGAGAGTCTTTTAAAGCTGGAAG 1092
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 Oy 1093 AGCTTACCTATTTATTTCT 1152
 Db 3536 AGGTGAGCTACTATTTTCT 3595
 Oy 1153 CTGCATTTGTTTGGAGTCAATCATCTTGGTACAGAGGAGGAGGAGGAGGAGGAGGAG 1212
 Db 3596 CAGCATTCACCTTAACGCTCATCAATCAATTTGGAGAGAGGAGGAGGAGGAGGAGGAG 3655
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 Db 3716 TTGGTGTCTGTGGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG 3775

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QY 1333 AGTCCAGCAAAATTTGGAAAGATCCCGTTCTGGAATCATTTATGTTCCAGCCATTACTG 1392
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Db 3776 AGACACACCAGATGGGCAAGATATCTGTTATAGAGTACTGCTGCTGACAGCCATCACTG 3835
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QY 1393 CTGATGATGCGCTTCCCTATATCATATAGGCTTAACACCAAGTAACTGATCAAAAGGC 1452
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Db 3836 CCAATCCGCTTTTCCCAATGAATACACTGGATGAGCACAAGTGAAGCTCATTTCTGAGC 3895
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QY 1453 TTTTACAGATGTTGTCCTCCCTGNAATCTCTTCTTTGAGACTACGAAATGACATGA 1512
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QY 1513 ATGCCAGTAAATTTGTCATGATCTGATGCTCAGACAGCAATGAGTATATTCAG 1572
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Db 3956 ACACAAAGCAAA--GGGGGTGAACCTGCTGACAGACGGCTGGCGTGGAGCTATACAGT 4012
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QY 1693 GGATTTGGGGAATTTGGGTGAGCAGCTTGCCTACTATACACAGCATGCTTATCTTTA 1752
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Db 4133 GACTTCTAGGATAGGATGAGACAGCTGCTTATACACAGGAATGAGACCGCTTCA 4192
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QY 1753 AGAGTGTGTGAGTGGGCTGATTTGATACACCTGGCCTTATATCCATGTTGTTG 1812
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QY 1813 CTGCTGATGCTTAGTGTGTGACAAAGATGATGCTCCCTGGTGTATTTGTTTGG 1872
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Db 4267 ----- 4266
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QY 1933 GGGTTGAGATGCTTTGGAGGGAAGCATTTTATGAACACATCCGATTAATATGAT 1992
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QY 1993 ACCCTTTCTGGATGCAAAAGAAATTCATCTATACCACTGCTGCTGACGTTATGA 2052
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QY 2113 ATATAGAAATATGATTAATGAACCACTACATGATGATTCCTGTCTATATGTCMAAG 2172
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QY 2413 GACTGAGGAGTGCCTTTGTAATCACTACAAATGAGGCGCTTCCTTGGCATTAATAACAAAAAG 2472
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QY 2473 ATATCCCTCCGCAATATGCGCAGACGCAAAACAAAGACCCGCTTCATATATGTTCAACT 2532
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RESULT 14
AAS74999
ID AAS74999 standard; cDNA: 4794 BP.
XX
AC AAS74999;
XX
DT 13-FEB-2002 (first entry)
XX
DE DNA encoding novel human diagnostic protein #10803.
XX
KW Human; chromosome mapping; gene mapping; gene therapy; forensic;
KW food supplement; medical imaging; diagnostic; genetic disorder; ss.
XX
OS Homo sapiens.
PN WO200175067-A2.
PD 11-OCT-2001.
XX
PF 30-MAR-2001; 2001WO-US08631.
XX
PR 31-MAR-2000; 2000US-0540217.
PR 23-AUG-2000; 2000US-0649167.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Drmanac RT, Liu C, Tang YT;
XX
DR WPI: 2001-639362/73.
DR P-PSDB: ABG10812.
XX
PT New isolated polynucleotide and encoded polypeptides, useful in
PT diagnostics, forensics, gene mapping, identification of mutations
PT responsible for genetic disorders or other traits and to assess
PT biodiversity.
XX
PS Claim 1; SEQ ID No 10803; 103bp; English.
XX
CC The invention relates to isolated polynucleotide (I) and
CC polypeptide (II) sequences. (I) is useful as hybridisation probes,
CC polymerase chain reaction (PCR) primers, oligomers, and for chromosome
CC and gene mapping, and in recombinant production of (II). The
CC polynucleotides are also used in diagnostics as expressed sequence tags
CC for identifying expressed genes. (I) is useful in gene therapy techniques
CC to restore normal activity of (II) or to treat disease states involving
CC (II). (II) is useful for generating antibodies against it, detecting or
CC quantitating a polypeptide in tissue, as molecular weight markers and as
CC a food supplement. (II) and its binding partners are useful in medical
CC imaging of sites expressing (II). (I) and (II) are useful for treating
CC disorders involving aberrant protein expression or biological activity.
CC The polypeptide and polynucleotide sequences have applications in
CC diagnostics, forensics, gene mapping, identification of mutations
CC responsible for genetic disorders or other traits to assess biodiversity
CC and to produce other types of data and products dependent on DNA and
CC amino acid sequences. AAS64197-AAS94564 represent novel human
CC diagnostic coding sequences of the invention.
CC Note: The sequence data for this patent did not appear in the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at filp.wipo.int/pub/published_pcl_sequences.
XX
SQ Sequence 4794 BP; 1655 A; 1089 C; 960 G; 1090 T; 0 other;

Query Match 19.3%; Score 701.2; DB 23; Length 4794;
Best Local Similarity 64.28; Pred. No. 9.7e-99;
Matches 1194; Conservative 0; Mismatches 483; Indels 183; Gaps 2;

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QY 673 GTCAAGCAGAGGCTCTGTTCTTATATCATGAACTACATATATGATACATCTTCTGGGCT 732
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 QY 793 CTGGAATTCAGAGATTTAAATATTTAAGGATTCATCATCAGAGGTTCTGTGGAA 852
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 Db 3476 CAGCTGGGTATCTGTAGCTTTGGAGCACCCTATAGTGGATATTTACCTGGAAG 3535
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RESULT 15
 AAS84089
 ID AAS84089 standard: cDNA: 4794 BP.
 XX AAS84089;
 AC
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 DT 13-FEB-2002 (first entry)
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 XX DNA encoding novel human diagnostic protein #19893.
 DE
 XX Human: chromosome mapping; gene mapping; gene therapy; forensic;
 KW food supplement; medical imaging; diagnostic; genetic disorder; ss.
 OS Homo sapiens.
 XX
 OS
 XX
 PN WO200175067-A2.
 XX
 PD 11-OCT-2001.
 XX
 PF 30-MAR-2001; 2001WO-US08631.


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QY 2173 AATCTCAGAGATTAGTGGGATTTGCCCTCAGAGAGACCTGACAATTGCANTAGAAAGTG 2232
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Search completed: May 15, 2003, 03:00:04
 Job time : 821 secs

